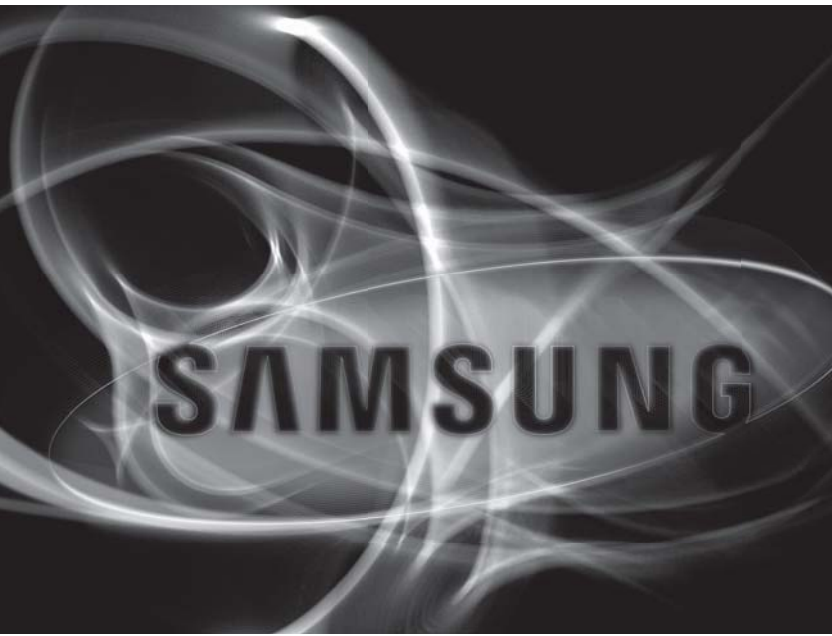
SAMSUNG TECHWIN

NETWORK CAMERA

User Manual

SNP-3430H



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SAMSUNG

Network Camera
User Manual

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Warranty

If the product does not operate properly in normal conditions, please let us know. Samsung Techwin will resolve the problem for free of charge. The warranty period is 3 years. However, the followings are excluded:

- If the system behaves abnormally because you run a program irrelevant to the system operation.
- Deteriorated performance or natural worn-out in process of time

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety, If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

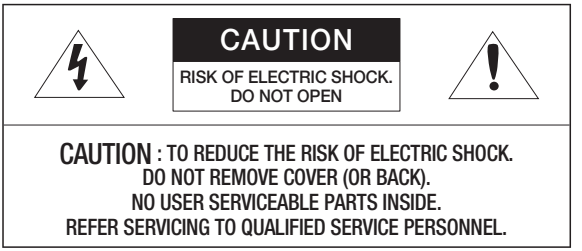
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PROCUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENNINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

CAUTION


CAUTION
RISK OF ELECTRIC SHOCK.
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

The BNC output port is used to monitor the installation process of the network camera.
If you keep the BNC cable connected, a risk of lightening may cause damage or malfunction to the product.

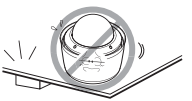
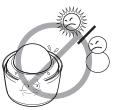
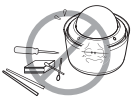
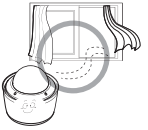
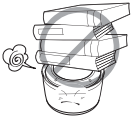
Please use the input power with just one camera and other devices must not be connected.

Precautions about the operating temperature

1. The product does not work in an ambient temperature of below -50℃.
2. Defrosting may not work at below -50℃ depending on the installation place.
3. Keep the product powered at all times so that the temperature inside the product stays over -10℃.
4. Even when you warm up the product by up to -20℃ after leaving it at below -50℃, the product does not output the video signal and just displays the blue screen for 30 minutes before resetting the zoom module, during which the product does not work normally.
   Then, it tries to initialize the lens module every 30 minutes until the temperature inside the product increases to the normal operating temperature.

overview

Please read the following recommend safety precautions carefully.

Do not Place this apparatus on an uneven surface. 	Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area. 
Do not place this apparatus near conductive material. 	Do not attempt to service this apparatus yourself.
Do not place a glass of water on the product. 	Do not install near any magnetic sources.
Do not block any ventilation openings. 	Do not place heavy items on the product. 

User's Manual is a guidance book how to use the products

The meaning of the using sign in the book is following

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

※ Please read this manual for the safety before using of goods and keep it in the safe place.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Samsung Techwin cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products.
The Eco mark represents Samsung Techwin's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

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PRODUCT FEATURES

- **H.264/MPEG-4/MJPEG Multi-Streaming**
  This network camera supports the H.264/MPEG-4/MJPEG codec and can display videos in different resolutions and qualities simultaneously with different Codecs.

  ▪ However, MPEG4 video can not be played on a web page. Use CMS software if you want to play the video on a web page.

- **Support various communication protocols**
  Supports TCP/IP, UDP, RTP/RTSP, email, and FTP protocols as well as various internet protocols such as ARP, HTTP, HTTPS and DHCP.
- **Web Browser-based Monitoring**
  Using the Internet web browser to display the image in a local network environment.
- **Alarm Function**
  If an event occurs, the event-related video will be transferred to the FTP/email specified by the user or saved to the SD memory, or the event signal will be sent to the Alarm Out port.
- **ONVIF (Spec 1.01) Compliance**
  This product supports ONVIF Core Spec. 1. 01.
  For more information, refer to www.onvif.org.

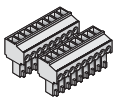
ONVIF
Driving network video through global standardization

RECOMENDED PC SPECIFICATIONS

- CPU : Intel(R) Core(TM)2 2.00 GHz or higher
- Operating System : Windows XP, VISTA, 7
  Mac OS
- Resolution : 1280X1024 pixels or higher
- RAM : 1GB or higher
- Web Browser : Internet Explorer 6.0 or higher
  Firefox, Google Chrome, Safari
- Video Memory : 128MB or higher

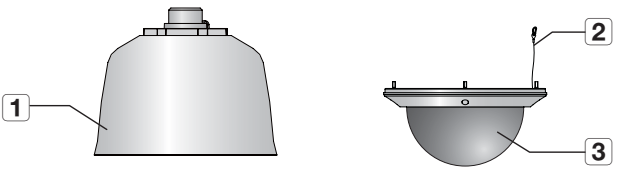
WHAT'S INCLUDED

Please check if your camera and accessories are all included in the product package.

Appearance	Item Name	Quantity	Description
	User Manual, Installer S/W, CMS S/W DVD	1	
	Quick Guide	1	
	9Pin Terminal Block	2	Used for alarm connection
	4Pin Terminal Block	1	Used for RS-485 communication
	3Pin Terminal Block	1	Used for power connection
	L Wrench	1	Used to remove/fix the dome cover

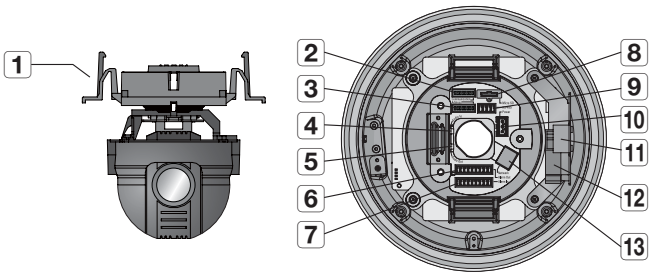
AT A GLANCE

Appearance



Item	Description
1 Sunshield & Housing Unit	Housing that protects the internal PTZ mechanism from the direct sunlight, rain or external impact.
2 Dome safety wire	Prevents the dome cover from falling.
3 Dome Cover	Dome cover for the lens and unit protection.

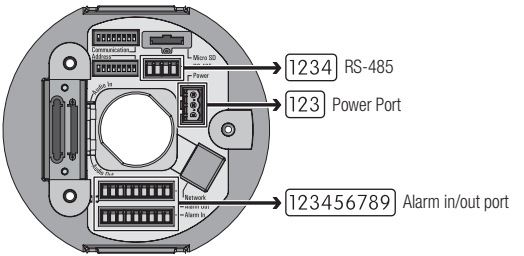
Inside



Item	Description
1 PTZ Mechanism	Control the PTZ operations of the camera.
2 Comm. Setup Switch	Set the transfer rate and protocols.
3 ID Setup Switch	Specify the camera ID.
4 Audio Input Port	Used to connect the audio input cable.
5 Audio Output Port	Used to connect the audio output cable.
6 Alarm Output Port	Terminal block port that is used to connect the alarm out cable.
7 Alarm Input Port	Terminal block port that is used to connect the alarm input cable.
8 Micro SD Card Slot	Micro SD card slot.
9 Communication Port	Used for RS-485 communications.
10 Power Port	Connect the power source here.
11 Heater	Defrost the dome cover in a low temperature by increasing the internal temperature of the housing.
12 Fan	Defrosts the dome cover and removes moisture.
13 Network Connections	Network cable port.

❖ Camera Wiring Interface Board

For the camera wiring, please refer to the picture below.



Alarm Input Signal

No.	Name	Usage
1	IN1	Alarm Input Sensor Port 1
2	IN2	Alarm Input Sensor Port 2
3	IN3	Alarm Input Sensor Port 3
4	IN4	Alarm Input Sensor Port 4
5	GND	GROUND
6	IN5	Alarm Input Sensor Port 5
7	IN6	Alarm Input Sensor Port 6
8	IN7	Alarm Input Sensor Port 7
9	IN8	Alarm Input Sensor Port 8

Alarm Output Signal

No.	Name	Usage
1	OUT1	ALARM OUT 1
2	OUT1	ALARM OUT 1
3	OUT2	ALARM OUT 2
4	OUT2	ALARM OUT 2
5	DUMMY	Unused
6	OUT3	ALARM OUT 3
7	OUT3	ALARM OUT 3
8	OUT4	ALARM OUT 4
9	OUT4	ALARM OUT 4

RS-485 Communication Signal

No.	Name	Usage
1	RS485+	Controller Data Line
2	RS485-	Controller Data Line
3	RS485+	Controller Data Line
4	RS485-	Controller Data Line

Power Port

No.	Name	Usage
1	AC	AC 24V
2	F.G	Earth Line
3	AC	AC 24V

- Power supply adaptor (AC) has no polarities.

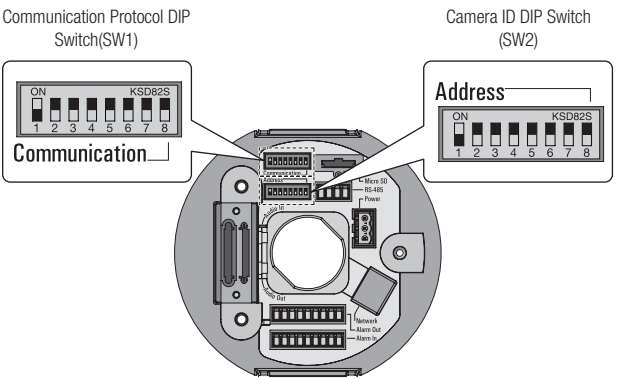
- The maximum capacity of the Alarm Out port is 30V DC/1A, 125V AC/0.5A.
- When connecting the camera to an external over-rated product, use a separate relay device to ensure proper operation.
- To prevent possible inflow of lightning while in test monitoring, perform the test with the FG terminal grounded.

DIP SWITCH SETTING

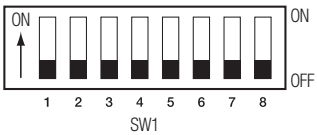
How to set up Protocols and ID DIP Switches

You can control various settings of the camera system using the Communication and ID DIP switches. Before installing the product, please set up the DIP switches according to the installation environment.

1. Set the switches according to your installation environment. For more detailed setup information, please refer to the chart on the next page.
2. The camera may malfunction if the switches are not fully turned On/Off; please double check the switches before finishing setup.



Communication Protocol DIP Switch Settings (SW1)



SW1 Pin No.	Purpose
1~4	Protocol Settings
5~7	Baud Rate Settings
8	Termination Settings

• **Protocol Settings**

Select a communication protocol for the camera.

No.	Protocol	SW1-#1	SW1-#2	SW1-#3	SW1-#4
1	AUTO DETECT	OFF	OFF	OFF	OFF
2	SAMSUNG-T	ON	ON	ON	OFF
3	PELCO-D	ON	OFF	OFF	OFF
4	PELCO-P	OFF	ON	OFF	OFF
5	SAMSUNG-E	ON	ON	OFF	OFF
6	Panasonic	OFF	OFF	ON	OFF
7	GE	ON	OFF	ON	OFF
8	AD	OFF	ON	ON	OFF
9	VICON	OFF	OFF	OFF	ON
10	Honeywell (KD6)	ON	OFF	OFF	ON
11	BOSCH	OFF	ON	OFF	ON
12	Honeywell (VCLTP)	ON	ON	OFF	ON

- **Baud Rate Settings**

Select the transfer speed of a selected communication protocol.

No.	Baud Rate (BPS)	SW1-#5	SW1-#6	SW1-#7
1	2400	OFF	OFF	OFF
2	4800	ON	OFF	OFF
3	9600	OFF	ON	OFF
4	19200	ON	ON	OFF
5	38400	OFF	OFF	ON

- **Termination Settings**

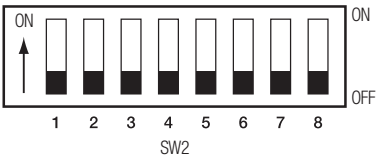
To prevent the attenuation of communication signals between the camera and controller, the items at the end of line must be set up with the termination settings.

Camera Input Position	SW1- #8
Termination of Longest Path	ON
On the Path	OFF

- The default value is shaded in each setting table.
- To use a third party controller with this product, please contact our After-Sales Service or Technology Department.

Camera ID DIP Switch Settings (SW2)

To set up camera IDs, refer to the "**Camera ID Chart**" next.



SW2

- **Camera ID Chart**

ID	SW2-#1	SW2-#2	SW2-#3	SW2-#4	SW2-#5	SW2-#6	SW2-#7	SW2-#8
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
19	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
20	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
21	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
22	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
23	ON	ON	ON	OFF	ON	OFF	OFF	OFF
24	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
26	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
27	ON	ON	OFF	ON	ON	OFF	OFF	OFF
28	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
29	ON	OFF	ON	ON	ON	OFF	OFF	OFF
30	OFF	ON	ON	ON	ON	OFF	OFF	OFF
31	ON	ON	ON	ON	ON	OFF	OFF	OFF
32	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
33	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
34	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
35	ON	ON	OFF	OFF	OFF	ON	OFF	OFF
36	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
37	ON	OFF	ON	OFF	OFF	ON	OFF	OFF
38	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
39	ON	ON	ON	OFF	OFF	ON	OFF	OFF
40	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
41	ON	OFF	OFF	ON	OFF	ON	OFF	OFF

ID	SW2-#1	SW2-#2	SW2-#3	SW2-#4	SW2-#5	SW2-#6	SW2-#7	SW2-#8
42	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
43	ON	ON	OFF	ON	OFF	ON	OFF	OFF
44	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
45	ON	OFF	ON	ON	OFF	ON	OFF	OFF
46	OFF	ON	ON	ON	OFF	ON	OFF	OFF
47	ON	ON	ON	ON	OFF	ON	OFF	OFF
48	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
49	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
50	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
51	ON	ON	OFF	OFF	ON	ON	OFF	OFF
52	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
53	ON	OFF	ON	OFF	ON	ON	OFF	OFF
54	OFF	ON	ON	OFF	ON	ON	OFF	OFF
55	ON	ON	ON	OFF	ON	ON	OFF	OFF
56	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
57	ON	OFF	OFF	ON	ON	ON	OFF	OFF
58	OFF	ON	OFF	ON	ON	ON	OFF	OFF
59	ON	ON	OFF	ON	ON	ON	OFF	OFF
60	OFF	OFF	ON	ON	ON	ON	OFF	OFF
61	ON	OFF	ON	ON	ON	ON	OFF	OFF
62	OFF	ON	ON	ON	ON	ON	OFF	OFF
63	ON	ON	ON	ON	ON	ON	OFF	OFF
64	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
65	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
66	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
67	ON	ON	OFF	OFF	OFF	OFF	ON	OFF
68	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
69	ON	OFF	ON	OFF	OFF	OFF	ON	OFF
70	OFF	ON	ON	OFF	OFF	OFF	ON	OFF
71	ON	ON	ON	OFF	OFF	OFF	ON	OFF
72	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
73	ON	OFF	OFF	ON	OFF	OFF	ON	OFF
74	OFF	ON	OFF	ON	OFF	OFF	ON	OFF
75	ON	ON	OFF	ON	OFF	OFF	ON	OFF
76	OFF	OFF	ON	ON	OFF	OFF	ON	OFF
77	ON	OFF	ON	ON	OFF	OFF	ON	OFF
78	OFF	ON	ON	ON	OFF	OFF	ON	OFF
79	ON	ON	ON	ON	OFF	OFF	ON	OFF
80	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
81	ON	OFF	OFF	OFF	ON	OFF	ON	OFF
82	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
83	ON	ON	OFF	OFF	ON	OFF	ON	OFF
84	OFF	OFF	ON	OFF	ON	OFF	ON	OFF

ID	SW2-#1	SW2-#2	SW2-#3	SW2-#4	SW2-#5	SW2-#6	SW2-#7	SW2-#8
85	ON	OFF	ON	OFF	ON	OFF	ON	OFF
86	OFF	ON	ON	OFF	ON	OFF	ON	OFF
87	ON	ON	ON	OFF	ON	OFF	ON	OFF
88	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
89	ON	OFF	OFF	ON	ON	OFF	ON	OFF
90	OFF	ON	OFF	ON	ON	OFF	ON	OFF
91	ON	ON	OFF	ON	ON	OFF	ON	OFF
92	OFF	OFF	ON	ON	ON	OFF	ON	OFF
93	ON	OFF	ON	ON	ON	OFF	ON	OFF
94	OFF	ON	ON	ON	ON	OFF	ON	OFF
95	ON	ON	ON	ON	ON	OFF	ON	OFF
96	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
97	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
98	OFF	ON	OFF	OFF	OFF	ON	ON	OFF
99	ON	ON	OFF	OFF	OFF	ON	ON	OFF
100	OFF	OFF	ON	OFF	OFF	ON	ON	OFF
101	ON	OFF	ON	OFF	OFF	ON	ON	OFF
102	OFF	ON	ON	OFF	OFF	ON	ON	OFF
103	ON	ON	ON	OFF	OFF	ON	ON	OFF
104	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
105	ON	OFF	OFF	ON	OFF	ON	ON	OFF
106	OFF	ON	OFF	ON	OFF	ON	ON	OFF
107	ON	ON	OFF	ON	OFF	ON	ON	OFF
108	OFF	OFF	ON	ON	OFF	ON	ON	OFF
109	ON	OFF	ON	ON	OFF	ON	ON	OFF
110	OFF	ON	ON	ON	OFF	ON	ON	OFF
111	ON	ON	ON	ON	OFF	ON	ON	OFF
112	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
113	ON	OFF	OFF	OFF	ON	ON	ON	OFF
114	OFF	ON	OFF	OFF	ON	ON	ON	OFF
115	ON	ON	OFF	OFF	ON	ON	ON	OFF
116	OFF	OFF	ON	OFF	ON	ON	ON	OFF
117	ON	OFF	ON	OFF	ON	ON	ON	OFF
118	OFF	ON	ON	OFF	ON	ON	ON	OFF
119	ON	ON	ON	OFF	ON	ON	ON	OFF
120	OFF	OFF	OFF	ON	ON	ON	ON	OFF
121	ON	OFF	OFF	ON	ON	ON	ON	OFF
122	OFF	ON	OFF	ON	ON	ON	ON	OFF
123	ON	ON	OFF	ON	ON	ON	ON	OFF
124	OFF	OFF	ON	ON	ON	ON	ON	OFF
125	ON	OFF	ON	ON	ON	ON	ON	OFF
126	OFF	ON	ON	ON	ON	ON	ON	OFF
127	ON	ON	ON	ON	ON	ON	ON	OFF

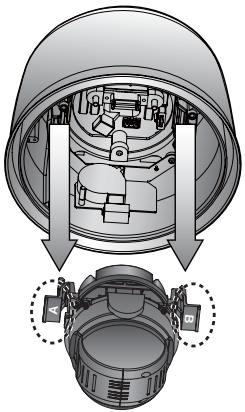
ID	SW2-#1	SW2-#2	SW2-#3	SW2-#4	SW2-#5	SW2-#6	SW2-#7	SW2-#8
128	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
129	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
130	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON
131	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
132	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
133	ON	OFF	ON	OFF	OFF	OFF	OFF	ON
134	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
135	ON	ON	ON	OFF	OFF	OFF	OFF	ON
136	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
137	ON	OFF	OFF	ON	OFF	OFF	OFF	ON
138	OFF	ON	OFF	ON	OFF	OFF	OFF	ON
139	ON	ON	OFF	ON	OFF	OFF	OFF	ON
140	OFF	OFF	ON	ON	OFF	OFF	OFF	ON
141	ON	OFF	ON	ON	OFF	OFF	OFF	ON
142	OFF	ON	ON	ON	OFF	OFF	OFF	ON
143	ON	ON	ON	ON	OFF	OFF	OFF	ON
144	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
145	ON	OFF	OFF	OFF	ON	OFF	OFF	ON
146	OFF	ON	OFF	OFF	ON	OFF	OFF	ON
147	ON	ON	OFF	OFF	ON	OFF	OFF	ON
148	OFF	OFF	ON	OFF	ON	OFF	OFF	ON
149	ON	OFF	ON	OFF	ON	OFF	OFF	ON
150	OFF	ON	ON	OFF	ON	OFF	OFF	ON
151	ON	ON	ON	OFF	ON	OFF	OFF	ON
152	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
153	ON	OFF	OFF	ON	ON	OFF	OFF	ON
154	OFF	ON	OFF	ON	ON	OFF	OFF	ON
155	ON	ON	OFF	ON	ON	OFF	OFF	ON
156	OFF	OFF	ON	ON	ON	OFF	OFF	ON
157	ON	OFF	ON	ON	ON	OFF	OFF	ON
158	OFF	ON	ON	ON	ON	OFF	OFF	ON
159	ON	ON	ON	ON	ON	OFF	OFF	ON
160	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
161	ON	OFF	OFF	OFF	OFF	ON	OFF	ON
162	OFF	ON	OFF	OFF	OFF	ON	OFF	ON
163	ON	ON	OFF	OFF	OFF	ON	OFF	ON
164	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
165	ON	OFF	ON	OFF	OFF	ON	OFF	ON
166	OFF	ON	ON	OFF	OFF	ON	OFF	ON
167	ON	ON	ON	OFF	OFF	ON	OFF	ON
168	OFF	OFF	OFF	ON	OFF	ON	OFF	ON
169	ON	OFF	OFF	ON	OFF	ON	OFF	ON
170	OFF	ON	OFF	ON	OFF	ON	OFF	ON

ID	SW2-#1	SW2-#2	SW2-#3	SW2-#4	SW2-#5	SW2-#6	SW2-#7	SW2-#8
171	ON	ON	OFF	ON	OFF	ON	OFF	ON
172	OFF	OFF	ON	ON	OFF	ON	OFF	ON
173	ON	OFF	ON	ON	OFF	ON	OFF	ON
174	OFF	ON	ON	ON	OFF	ON	OFF	ON
175	ON	ON	ON	ON	OFF	ON	OFF	ON
176	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
177	ON	OFF	OFF	OFF	ON	ON	OFF	ON
178	OFF	ON	OFF	OFF	ON	ON	OFF	ON
179	ON	ON	OFF	OFF	ON	ON	OFF	ON
180	OFF	OFF	ON	OFF	ON	ON	OFF	ON
181	ON	OFF	ON	OFF	ON	ON	OFF	ON
182	OFF	ON	ON	OFF	ON	ON	OFF	ON
183	ON	ON	ON	OFF	ON	ON	OFF	ON
184	OFF	OFF	OFF	ON	ON	ON	OFF	ON
185	ON	OFF	OFF	ON	ON	ON	OFF	ON
186	OFF	ON	OFF	ON	ON	ON	OFF	ON
187	ON	ON	OFF	ON	ON	ON	OFF	ON
188	OFF	OFF	ON	ON	ON	ON	OFF	ON
189	ON	OFF	ON	ON	ON	ON	OFF	ON
190	OFF	ON	ON	ON	ON	ON	OFF	ON
191	ON	ON	ON	ON	ON	ON	OFF	ON
192	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
193	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
194	OFF	ON	OFF	OFF	OFF	OFF	ON	ON
195	ON	ON	OFF	OFF	OFF	OFF	ON	ON
196	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
197	ON	OFF	ON	OFF	OFF	OFF	ON	ON
198	OFF	ON	ON	OFF	OFF	OFF	ON	ON
199	ON	ON	ON	OFF	OFF	OFF	ON	ON
200	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
201	ON	OFF	OFF	ON	OFF	OFF	ON	ON
202	OFF	ON	OFF	ON	OFF	OFF	ON	ON
203	ON	ON	OFF	ON	OFF	OFF	ON	ON
204	OFF	OFF	ON	ON	OFF	OFF	ON	ON
205	ON	OFF	ON	ON	OFF	OFF	ON	ON
206	OFF	ON	ON	ON	OFF	OFF	ON	ON
207	ON	ON	ON	ON	OFF	OFF	ON	ON
208	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
209	ON	OFF	OFF	OFF	ON	OFF	ON	ON
210	OFF	ON	OFF	OFF	ON	OFF	ON	ON
211	ON	ON	OFF	OFF	ON	OFF	ON	ON
212	OFF	OFF	ON	OFF	ON	OFF	ON	ON
213	ON	OFF	ON	OFF	ON	OFF	ON	ON

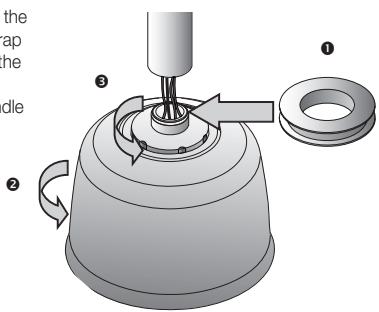
ID	SW2-#1	SW2-#2	SW2-#3	SW2-#4	SW2-#5	SW2-#6	SW2-#7	SW2-#8
214	OFF	ON	ON	OFF	ON	OFF	ON	ON
215	ON	ON	ON	OFF	ON	OFF	ON	ON
216	OFF	OFF	OFF	ON	ON	OFF	ON	ON
217	ON	OFF	OFF	ON	ON	OFF	ON	ON
218	OFF	ON	OFF	ON	ON	OFF	ON	ON
219	ON	ON	OFF	ON	ON	OFF	ON	ON
220	OFF	OFF	ON	ON	ON	OFF	ON	ON
221	ON	OFF	ON	ON	ON	OFF	ON	ON
222	OFF	ON	ON	ON	ON	OFF	ON	ON
223	ON	ON	ON	ON	ON	OFF	ON	ON
224	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
225	ON	OFF	OFF	OFF	OFF	ON	ON	ON
226	OFF	ON	OFF	OFF	OFF	ON	ON	ON
227	ON	ON	OFF	OFF	OFF	ON	ON	ON
228	OFF	OFF	ON	OFF	OFF	ON	ON	ON
229	ON	OFF	ON	OFF	OFF	ON	ON	ON
230	OFF	ON	ON	OFF	OFF	ON	ON	ON
231	ON	ON	ON	OFF	OFF	ON	ON	ON
232	OFF	OFF	OFF	ON	OFF	ON	ON	ON
233	ON	OFF	OFF	ON	OFF	ON	ON	ON
234	OFF	ON	OFF	ON	OFF	ON	ON	ON
235	ON	ON	OFF	ON	OFF	ON	ON	ON
236	OFF	OFF	ON	ON	OFF	ON	ON	ON
237	ON	OFF	ON	ON	OFF	ON	ON	ON
238	OFF	ON	ON	ON	OFF	ON	ON	ON
239	ON	ON	ON	ON	OFF	ON	ON	ON
240	OFF	OFF	OFF	OFF	ON	ON	ON	ON
241	ON	OFF	OFF	OFF	ON	ON	ON	ON
242	OFF	ON	OFF	OFF	ON	ON	ON	ON
243	ON	ON	OFF	OFF	ON	ON	ON	ON
244	OFF	OFF	ON	OFF	ON	ON	ON	ON
245	ON	OFF	ON	OFF	ON	ON	ON	ON
246	OFF	ON	ON	OFF	ON	ON	ON	ON
247	ON	ON	ON	OFF	ON	ON	ON	ON
248	OFF	OFF	OFF	ON	ON	ON	ON	ON
249	ON	OFF	OFF	ON	ON	ON	ON	ON
250	OFF	ON	OFF	ON	ON	ON	ON	ON
251	ON	ON	OFF	ON	ON	ON	ON	ON
252	OFF	OFF	ON	ON	ON	ON	ON	ON
253	ON	OFF	ON	ON	ON	ON	ON	ON
254	OFF	ON	ON	ON	ON	ON	ON	ON
255	ON	ON	ON	ON	ON	ON	ON	ON

INSTALLATION

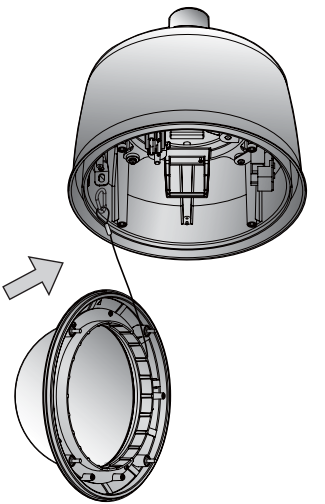
1. Before you can connect the cables, hold down both A and B handles of the PTZ mechanism to remove it.



2. Wrap the pipe thread on the top of the housing with a waterproof tape. Wrap it at least 7 times before attaching the upper housing to the bracket.
To fix the top housing, turn the handle of the double nut clockwise to the end.

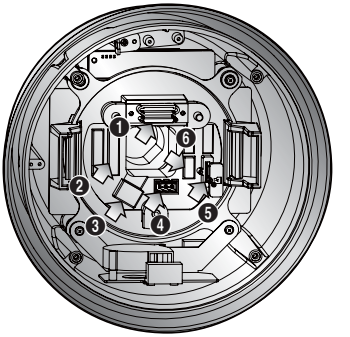


3. Make sure that the dome cover is connected firmly to the safety wire.

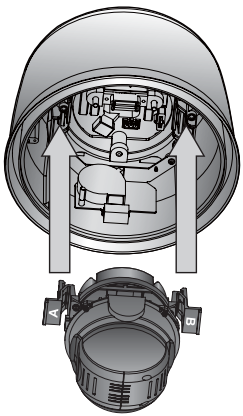


4. Connect each of the following cables to the applicable port.

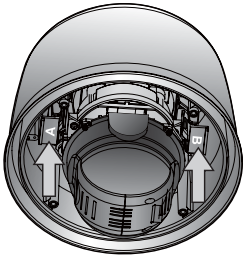
❶ Audio In/out
❷ Terminal Block
❸ Network
❹ Power
❺ Micro SD Card
❻ RS-485



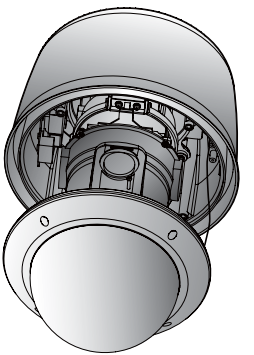
5. Check the direction of the one-touch connector on the upper housing before fit the PTZ mechanism into the hooks of the upper housing and push it down.



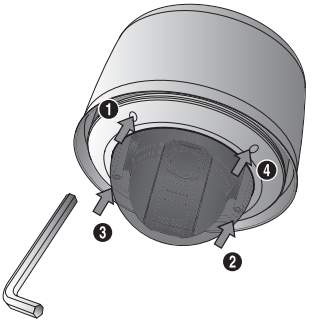
6. To secure the PTZ mechanism to the upper housing, hold down two black handles until you hear a click.



7. Close the dome cover. Make sure you close the dome cover in the arrow direction.



8. Tighten the screws (x4) in the numeric order as shown in the figure.

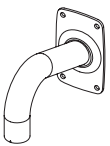


- To maintain the best sealing performance, tighten the screw in a torque between 0.5 N·m and 1.0 N·m (0.37 ~ 0.73 lbf·ft).

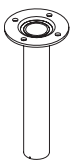
Optional Accessories for Installation

For your easier installation, you can purchase appropriate optional accessories available.

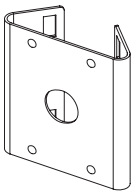
1. WALL MOUNT ADAPTOR(SCX-300WM)
   This adaptor is used when installing the dome camera onto a wall.



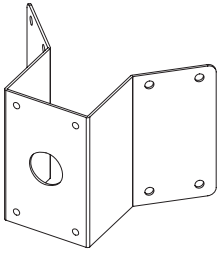
2. CEILING MOUNT ADAPTOR(SCX-300CM)
   This adaptor is used when installing the dome camera on a concrete ceiling.



3. POLE MOUNT ADAPTOR(SCX-300PM)
   This is an adaptor for WALL MOUNT ADAPTOR (SCX-300WM) installation on a pole whose diameter is bigger than 80mm.



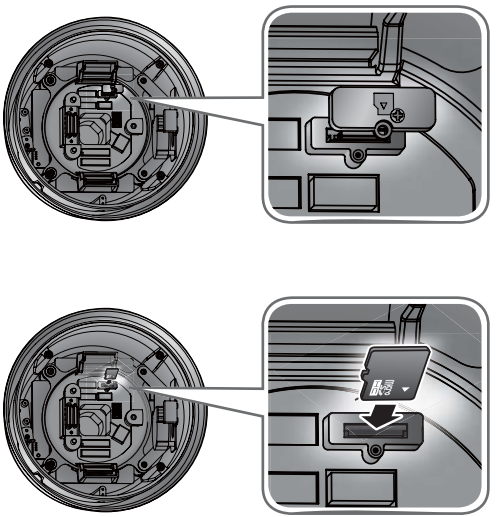
4. CORNER MOUNT ADAPTOR (SCX-300KM)
   This is an adaptor for WALL MOUNT ADAPTOR (SCX-300WM) installation on the corner of wall join.



INSERTING/REMOVING AN SD MEMORY CARD

Inserting an SD Memory Card

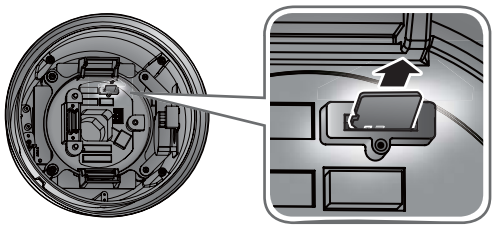
As shown, loosen the screw before removing the SD memory card cover. Insert the SD card in the arrow direction.



- Do not insert the SD memory card while it's upside down by force. Otherwise, it may damage the SD memory card.

Removing an SD Memory Card

Gently press down on the exposed end of the memory card as shown in the diagram to eject the memory card from the slot.



- Pressing too hard on the SD memory card can cause the card to shoot out uncontrollably from the slot when released.
- To remove the SD memory card, set <**Record**> to <**Off**> from <**SD record**> and press [**Apply** ( )]. (page 79)
- If you have saved data in the SD memory card, removing the SD memory card prior to setting record to OFF will cause damage to the data stored in the card.

MEMORY CARD INFORMATION (NOT INCLUDED)

What is a memory card?

The memory card is an external data storage device that has been developed to offer an entirely new way to record and share video, audio, and text data using digital devices.

Selecting a memory card that's suitable for you

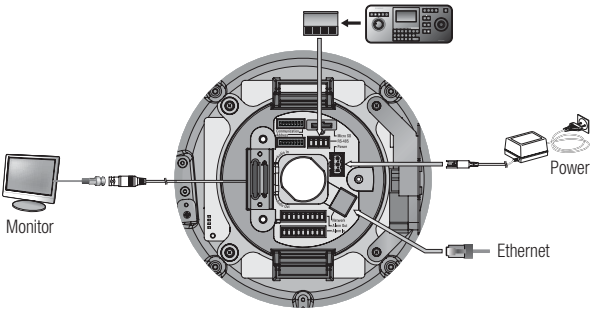
You can use Micro SD/SDHC memory cards in this camera.
You may, however, experience compatibility issues depending on the model and make of the memory card.

For your camera, we recommend you use a memory card from the following manufacturers:
Micro SD/SDHC Memory Manufacturers : Sandisk, Transcend, Kingston

Your camera supports 2GB to 32GB of memory card capacity.

Playback performance can be affected depending on the speed of memory card, so use the high-speed memory card.
To ensure proper recording of video data, we recommend you use a memory card that supports at least read/write speed 10Mbps and Class 6.

CONNECTING WITH OTHER DEVICE



Power Supply

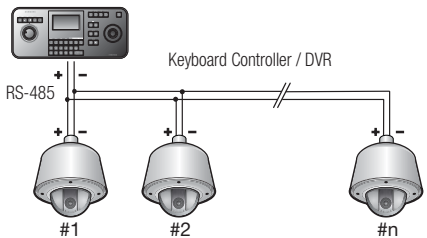
Check out the rated voltage and current before making connections.

Rated Power	Allowable Input Voltage	Current Consumption
AC 24V	AC 19V ~ 29V	2.5 A

- If using hPoE, the heater will not operate at all.
  Use an adaptor if the installation site requires heater operations. Adaptor is sold separately.

RS-485 Communications

For controlling the PTZ operation, connect this line to DVR.
To control multiple cameras at once, RS-485 communications must be configured in parallel as follows:

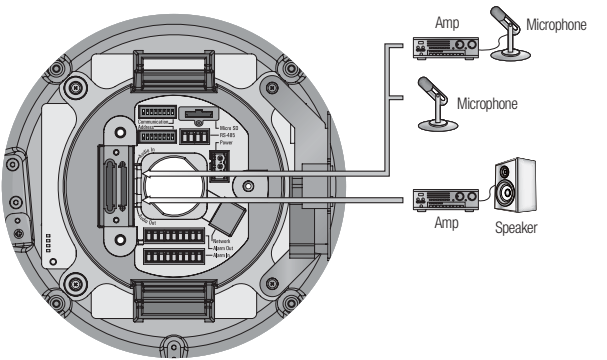


Video Connection

Make video connection using the BNC coaxial cable.

- The BNC output port is used only to monitor the installation process of the network camera. If you keep the BNC cable connected, a risk of lightening may cause damage to the product or malfunction.

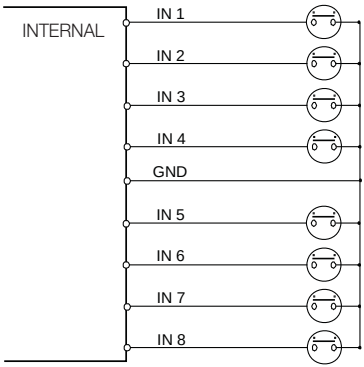
Connecting to Audio Input/Output



1. Connect the AUDIO IN port of the camera with the microphone directly or LINE OUT port of the amplifier that the microphone is connected to.
2. Connect the AUDIO OUT port of the camera with the LINE IN port of the speaker.
3. Check the specifications for audio input.

- **Audio Codec**
  G.711 PCM. μ-law 64kbps 8kHz sampling
- **Full duplex Audio**
- **Audio in**
  Used for mono signal line input (Max.2.4 Vpp)
- **Audio out**
  Used for mono signal line output (Max.2.4 Vpp)
- **Line out impedance**
  600Ω

Alarm input Wiring Diagram

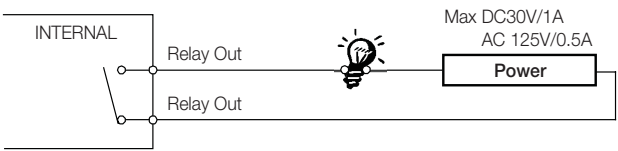


Sensor Input

Connection of GND to the input signal pin indicates the alarm is activated.

- If you want to activate the alarm input, you must select a sensor type in Setup menu.
- You have two choices for the sensor type: Normal Open and Normal Close. An incorrect selection of the sensor type may cause the alarm to operate reversely.

ALARM OUT



- There are 4 alarm outputs available, all of which are of the relay contact type. So you don't need to pay attention to the cross-channel polarity, AC/DC or isolation. However, make sure you have already checked out the power consumption on the contact of the relay.

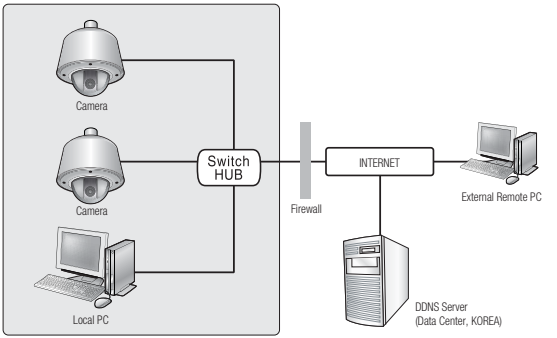
network connection and setup

You can set up the network settings according to your network configurations.

CONNECTING THE CAMERA DIRECTLY TO LOCAL AREA NETWORKING

Connecting to the camera from a local PC in the LAN

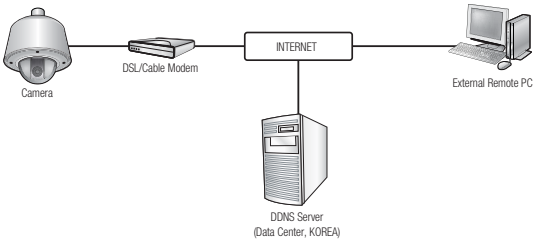
1. Launch an Internet browser on the local PC.
2. Enter the IP address of the camera in the address bar of the browser.



<Local Network>

- A remote PC in an external Internet out of the LAN network may not be able to connect to the camera installed in the intranet if the port-forwarding is not properly set or a firewall is set. In this case, to resolve the problem, contact your network administrator.
- The IP address is set to 192.168.1.100 when shipped by default. To change the IP address, use the IP Installer. For further details on IP Installer use, refer to "**Static IP Setup**". (Page 41)

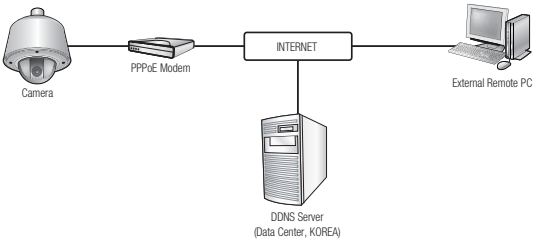
CONNECTING THE CAMERA DIRECTLY TO A DHCP BASED DSL/CABLE MODEM



1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the camera.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**DHCP**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 75)
- For configuring the DDNS settings, refer to "**DDNS**". (page 74)
- For setting the network type, refer to "**Interface**". (page 72)

CONNECTING THE CAMERA DIRECTLY TO A PPPOE MODEM

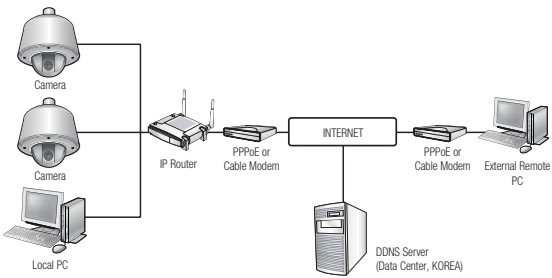


1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the camera.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**PPPoE**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 75)
- For configuring the DDNS settings, refer to "**DDNS**". (page 74)
- For setting the network type, refer to "**Interface**". (page 72)

CONNECTING THE CAMERA TO AN IP ROUTER WITH THE PPPOE/CABLE MODEM

This is for a small network environment such as homes, SOHO and ordinary shops.



Configuring the network settings of the local PC connected to an IP router

Configuring the network settings of the local PC connected to an IP router, follow the instructions below.

- Select : <**Network Neighborhood**> → <**Properties**> → <**Local Area Connection**> → <**Properties**> → <**General**> → <**Internet Protocol (TCP/IP)**> → <**Properties**> → <**Obtain an IP address automatically**> or <**Use the following IP address**>.
- Follow the instructions below if you select <**Use the following IP address**>:

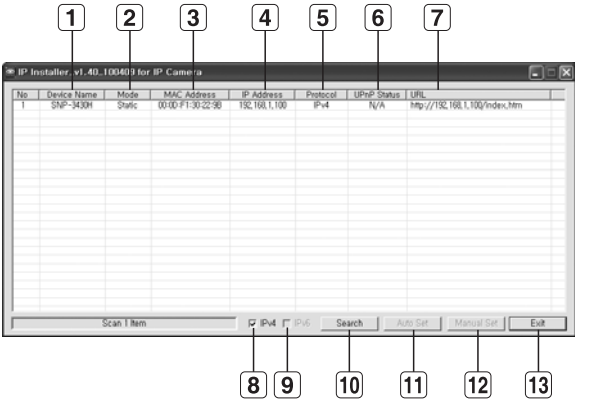
  ex1) If the address (LAN IP) of the IP router is 192.168.1.1
  IP address : 192.168.1.100
  Subnet Mask : 255.255.255.0
  Default Gateway : 192.168.1.1

  ex2) If the address (LAN IP) of the IP router is 192.168.0.1
  IP address : 192.168.0.100
  Subnet Mask : 255.255.255.0
  Default Gateway : 192.168.0.1

  ex3) If the address (LAN IP) of the IP router is 192.168.xxx.1
  IP address : 192.168.xxx.100
  Subnet Mask : 255.255.255.0
  Default Gateway : 192.168.xxx.1

- For the address of the IP router, refer to the product's documentation.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the IP Router's documentation. (Page 45)

BUTTONS USED IN IP INSTALLER



Item	Description
1 **Device Name**	Model name of the connected camera. Click the column to sort the list by model name. However, search will be stopped if clicked during the search.
2 **Mode**	Displays either <**Static**> or <**Dynamic**> for the current network connection status.
3 **MAC(Ethernet) Address**	Ethernet address for the connected camera. Click the column to sort the list by Ethernet address. However, search will be stopped if clicked during the search.
4 **IP Address**	IP address. Click the column to sort the list by IP address. However, search will be stopped if clicked during the search. The factory default is "**192.168.1.100**".
5 **Protocol**	Network setting for the camera. The factory default is "IPv4". Cameras with the IPv6 setting will be displayed "IPv6".
6 **UPnP Status**	This function is not currently implemented.

Item	Description
7 URL	DDNS URL address enabling access from the external Internet. However, this will be replaced with the <**IP Address**> of the camera if DDNS registration has failed.
8 IPv4	Scans for cameras with the IPv4 setting.
9 IPv6	Scans for cameras with the IPv6 setting.
10 Search	Scans for cameras that are currently connected to the network. However, this button will be grayed out if neither IPv4 nor IPv6 is checked.
11 Auto Set	The IP Installer automatically configures the network settings.
12 Manual Set	You should configure the network settings manually.
13 Exit	Exits the IP Installer program.

- For the IP installer, use only the installer version provided in the installation DVD or use the latest one if available. You can download the latest version from the product website.

STATIC IP SETUP

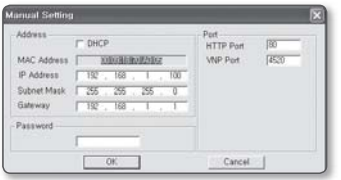
Manual Network Setup

Run <**IP Installer.exe**> to display the camera search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

- For cameras found with the IPv6 setting, these buttons will be grayed out as the cameras do not support this function.

1. Select a camera in the search list.
   Find the MAC (Ethernet) address labeled on the rear of the camera.
   Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.
2. Click [**Manual Set**].
   The Manual Setting dialog appears.
   The default values of <**IP Address**>, <**Subnet Mask**>, <**Gateway**>, <**HTTP Port**> and <**VNP Port**> of the camera will be displayed.
   The default <**Password**> is "**4321**".

3. In the <**Address**> pane, provide the necessary information.
   - MAC (Ethernet) Address : The MAC (Ethernet) address of the applicable camera will be set automatically so you don't need to input it manually.



- You can configure the static IP settings only if the DHCP checkbox is unchecked.

If using an IP router

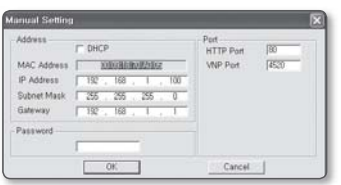
- IP Address : Enter an address falling in the IP range provided by the IP router.
  ex) 192.168.1.2~254,
  192.168.0.2~254,
  192.168.XXX.2~254
- Subnet Mask : The <**Subnet Mask**> of the IP router will be the <**Subnet Mask**> of the camera.
- Gateway : The <**Local IP Address**> of the IP router will be the <**Gateway**> of the camera.

- The settings may differ depending on the connected IP router model. For more information, refer to the user manual of the applicable router.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the IP Router's documentation. (Page 45)

If not using an IP router

For setting <**IP Address**>, <**Subnet Mask**>, and <**Gateway**>, contact your network administrator.

4. In the <**Port**> pane, provide necessary information.
   - HTTP Port : Used to access the camera using the Internet browser, defaulted to 80. Use the spin button to change the HTTP Port value.
   - VNP Port : Used to control the video signal transfer, defaulted to 4520.



5. Enter the password.
   This is the login password for the "**admin**" user who accesses the camera.
   The default password is "**4321**".
6. Click [**OK**].
   Manual network setup will be completed.
7. When the manual setup including IP is completed, the camera will restart.

If the IP router has more than one camera connected

Configure the IP related settings and the Port related settings distinctly with each other.

Category		Camera #1	Camera #2
IP related settings	IP Address Subnet Mask Gateway	192.168.1.100 255.255.255.0 192.168.1.1	192.168.1.101 255.255.255.0 192.168.1.1
Port related settings	HTTP Port VNP Port	8080 4520	8081 4521

- If the <**HTTP Port**> is set other than 80, you must provide the <**Port**> number in the address bar of the Internet browser before you can access the camera.
  ex) http://IP address : HTTP Port
  http://192.168.1.100:8080

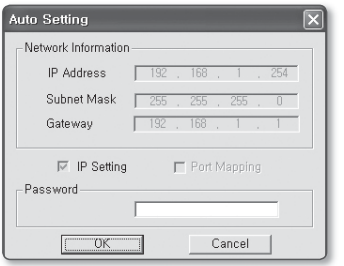
Auto Network Setup

Run <**IP Installer.exe**> to display the camera search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

- For cameras found with the IPv6 setting, these buttons will be grayed out as the cameras do not support this function.

1. Select a camera in the search list.
   Find the MAC (Ethernet) address labeled on the rear of the camera.
   Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.
2. Click [**Auto Set**].
   The Auto Setting dialog appears.
   The <**IP Address**>, <**Subnet Mask**>, and <**Gateway**> will be set automatically.

3. Enter the password.
   This is the login password for the "**admin**" user who accesses the camera. The default password is "**4321**".
4. Click [**OK**].
   Auto network setup will be completed.



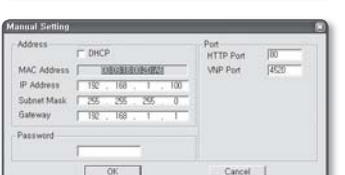
DYNAMIC IP SETUP

Dynamic IP Environment Setup

- Example of the Dynamic IP environment
  - If an IP router, with cameras connected, is assigned an IP address by the DHCP server
  - If connecting the camera directly to modem using the DHCP protocols
  - If IPs are assigned by the internal DHCP server via the LAN

Checking the Dynamic IP

1. Run the IP Installer on the user's local machine to display cameras allocated with <**Dynamic IP**> addresses in the list.
2. Select a camera in the list, and click [**Manual Set**] to check the <**Dynamic IP**> of the camera.
   If you uncheck <**DHCP**>, you can change IP or <**Port**> to <**Static**>.



PORT RANGE FORWARD (PORT MAPPING) SETUP

If you have installed an IP router with a camera connected, you must set the port range forwarding on the IP router so that a remote PC can access the camera in it.

Manual Port Range Forwarding

1. From the Setup menu of the IP router, select <**Applications & Gaming**> - <**Port Range Forward**>.
   For setting the port range forward for a third-party IP router, refer to the user guide of that IP router.
2. Select <**TCP**> and <**UDP Port**> for each connected camera to the IP router.
   Each port number for the IP router should match that specified in <**Network**> - <**Port**> from the camera's Setup menu.
3. When done, click [**Save Settings**].
   Your settings will be saved.

- Above sample instructions are based on the CISCO's IP Router (Model: LINKSYS).
- The settings may differ depending on the connected IP router model.
  For more information, refer to the user manual of the applicable router.

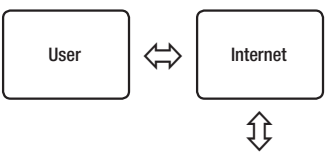
Setting up Port Range Forward for several network cameras

When several network camera connect to one IP router device, you should forward the TCP 943 port of the router to the TCP 943 port of a connected camera.

- If you don't set properly the TCP 943 port of the router, you cannot get any video stream from the web page of the camera.

- TCP 943 port is a port for the Silverlight policy server of a camera.

When Camera1 and Camera2 are connected to a router :



IP router			
Start	End	Protocol	IP Address
943	943	TCP	192.168.1.100
3000	3000	TCP/UDP	192.168.1.100
3001	3001	TCP/UDP	192.168.1.101
4520	4520	TCP/UDP	192.168.1.100
4521	4521	TCP/UDP	192.168.1.101
8080	8080	TCP/UDP	192.168.1.100
8081	8081	TCP/UDP	192.168.1.101

Camera1 (192.168.1.100)	
Web Server Port	8080
VNP Port	4520
RTSP Port	3000
Policy Server Port	943

Camera2 (192.168.1.101)	
Web Server Port	8081
VNP Port	4521
RTSP Port	3001
Policy Server Port	943

- You can set a rule of Port Forwarding on the IP router device through its configuration web page.
- You cannot change the Silverlight policy server port of a camera.
- You can change the ports of the camera except the policy server port through its configuration web pages.

CONNECTING TO THE CAMERA FROM A SHARED LOCAL PC

1. Run the IP Installer.
   It will scan for connected cameras and display a list of them.
2. Double-click a camera to access.
   The Internet browser starts and connects to the camera.

- Access to the camera can also be gained by typing the camera's IP address in the address bar of the Internet browser.

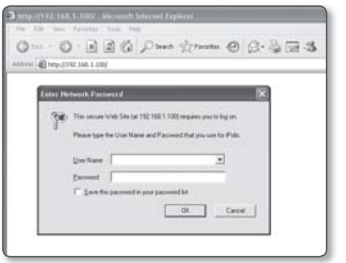
CONNECTING TO THE CAMERA FROM A REMOTE PC VIA THE INTERNET

Since using the IP Installer on a remote computer that is not in the IP Router's network cluster is not allowed, users can access cameras within an IP Router's network by using the camera's DDNS URL.

1. Before you can access a camera in the IP router network, you should have set the port range forward for the IP router.
2. From the remote PC, launch the Internet browser and type the DDNS URL address of the camera, or the IP address of the IP router in the address bar.
   ex) http://www.samsungipolis.com/[DDNS Domain]

CONNECTING TO THE CAMERA

Normally, you would



1. Launch the Internet browser.
2. Type the IP address of the camera in the address bar.
   ex) • IP address (IPv4) : 192.168.1.100
   → http://192.168.1.100
   - the Login dialog should appear.
   • IP address (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111
   → http://[2001:230:abcd:ffff:0000:0000:ffff:1111]

If the HTTP port is other than 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the camera in the address bar.
   ex) IP address : 192.168.1.100:HTTP Port number(8080)
   → http://192.168.1.100:8080 - the Login dialog should appear.

Using URL

1. Launch the Internet browser.
2. Type the DDNS URL of the camera in the address bar.
   ex) URL address : http://www.samsungipolis.com/[DDNS Domain]
   - the Login dialog should appear.

To check the DDNS address

If the camera is connected directly to the DHCP cable modem, DSL modem, or PPPoE modem, the IP address of your network will be changed each time you try to connect to the ISP (Internet Service Provider) server.
If this is the case, you will not be informed of the IP address changed by DDNS.

Once you register a dynamic IP-based device with the DDNS server, you can easily check the changed IP when you try to access the device.
To add the IP address to the <**DDNS**> server, visit www.samsungipolis.com and register your device, and set the DDNS option to <**Samsung DDNS**> before providing the host name for the DDNS server.

LOGIN

The default user ID is "**admin**", and the default password is "**4321**".

1. Enter "**admin**" in the <**User Name**> input box.
2. Enter "**4321**" in the <**Password**> input box.
   If the password is changed, enter the changed password instead.
3. Click [**OK**].
   If you have logged in successfully, you will the Live Viewer screen.

Enter Network Password
This secure Web Site (at 192.168.1.100) requires you to log on.
Please type the User Name and Password that you use for iPolis.
User Name
Password
Save this password in your password list
OK
Cancel

- For security purposes, ensure that you change the password in <**System**> - <**User**>. The administrator ID, "**admin**", is fixed and can not be changed.
- If you check the "**Save this password in your password list**" option when your input is done, in future you will be logged in automatically without being prompted to enter the login information.

- If you are using Internet Explorer 7.0 or 8.0 as the default web browser, you can view the best quality image with a screen ratio of 100%. Reducing the ratio may cut the image on the borders.

web viewer

This network camera uses Microsoft Silverlight for displaying the video.

INSTALLING SILVERLIGHT RUNTIME

If your PC has not installed Silverlight Runtime or has just installed an old runtime version, you will be redirected to the Silverlight Runtime installation page automatically when accessing the web viewer.

1. Click <**Click Here**>.

2. When the file download dialog pops up, click <**Run**>.

File Download - Security Warning
Do you want to run or save this file?
Name: Silverlight_Developer.exe
Type: Application, 7,63 MB
From: 192.168.1.100
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

3. When the download is completed, click <**Run**>.

Internet Explorer - Security Warning
Do you want to run this software?
Name: Microsoft Silverlight for Developers Installer
Publisher: Microsoft Corporation
More options
Run
Don't Run
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

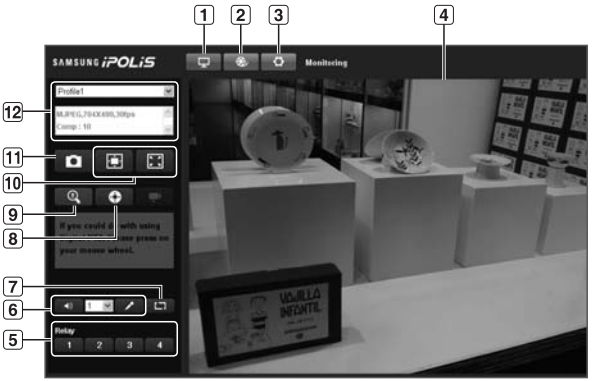
4. The Silverlight Runtime installation page will be displayed. <**Install now**> to proceed with the installation.

5. When done, click <**Close**>.

6. Close and restart the web browser, and try to access the Web Viewer.
When Silverlight Runtime is properly installed, you will see the Live screen.

- For normal installation, set the Block Popup setting as follows:
Internet Explorer → Tools → Block Popup → Always allow popups from the current site(A)
- However, MAC OS X users who are not connected to the Internet can use the provided installation DVD to install Silverlight Runtime (Run the executable "Silverlight_xxx.dmg" in the DVD. You will be guided through installation of the software).

USING THE LIVE SCREEN



Item	Description
1 Monitoring	Move to the monitoring screen.
2 Playback	Switch to the monitoring screen that plays recording data in the SD memory.
3 Setup	Move to the Setup screen.
4 Viewer Screen	Displays the Live video on the screen.
5 Alarm Output	Activate the Alarm Out port.
6 Audio	Display the audio Listen and Talk toggle button on the screen.
7 Reset Alarm	Reset the alarm output settings.
8 PTZ	Enables you to control the operation of the camera zoom lens.

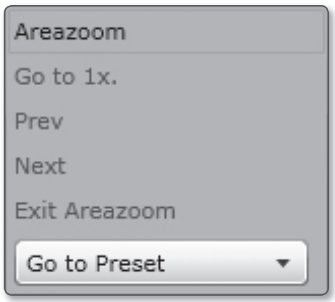
Item	Description
9 Digital PTZ	You can use the mouse wheel to activate the digital zooming.
10 Screen Optimization, Full Screen	Adjust the screen to the optimal size, and display the Full Screen icon on the Live screen.
11 Capture	Saves the snapshot as an image file in the .bmp format.
12 Video Format	You can select a profile type in <**Video profile**> under the <**Audio & Video**> setup menu. For IE 6.0 users, press the Browse button next to the <**Video profile**> dialog and select a profile type again if the selected profile is not played. If the "Invalid codec" message is displayed, select a profile type from the profile list again.

■ If the temperature drops below the operational range, video signal may not be produced. In such cases, please wait for the video.

To enable the Area Zoom mode

From the viewer screen, right-click to display the context menu below:
Menu items and descriptions

- Go to 1x : Change the current zoom factor to x1.
- Prev : Return to the previous area and settings.
- Next : Change to the next area and settings.
- Exit Areazoom : Exit the Area Zoom mode.
- Go to Preset : Move to the preset position.



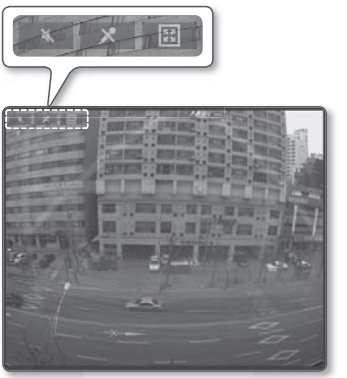
To capture the snapshot

1. Click [ ] on the scene to capture.
   The Capture dialog should appear.
2. Click [**Save**] button.
   The screenshot will be saved in the specified path.

- If you are using the IE8 as the default web browser, select "**Tools-Internet Options-Security**" and uncheck "**Use protected mode**".

To toggle the audio sound

1. Click the [**Audio (** **)**] button.
   The corresponding button will be displayed in the Viewer.
2. Click the button to listen to / mute the sound as you wish.
   This button operates as a toggle button.



To toggle the microphone sound

1. Click the [**Mic (** **)**] button.
   The corresponding button will be displayed in the Viewer.

- "**Cannot find audio recording device**" message appears if there is no Microphone.

2. Click the button to start / stop talking.
   This button operates as a toggle button.
   The Silverlight permission dialog appears when you click the microphone button.

To fit the full screen

1. Click the [**Full Screen (** **)**] button.
   The corresponding button will be displayed in the Viewer.
2. Click the button.
   This will fit the Viewer to the full screen.
3. To exit the full screen mode, press [**Esc**] on the keyboard.

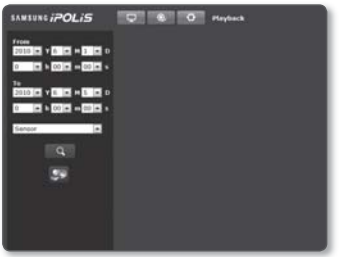
To control the PTZ

1. Press the [**PTZ (** **)**] button.
2. When the PTZ button bar appears on the screen, use the direction buttons to adjust the camera angle, zoom factor or focus to your preference.

■ For further details on PTZ use, refer to "**PTZ setup**". (page 66)

PLAYBACK

1. Click the [**Playback (**)] button.
2. Specify the start time and end time of your search.
3. Select a search type.
4. Click the [**Search (**)] button.
   The search results will be displayed in the list.



- If more than 500 events are recorded within the search period, your search will be limited up to the date when the 500th event is recorded.
  For instance, if the search period is between 10th and 15th day of the month, and more than 800 events were recorded 10th through 11th, your search will be limited up to 11th day with a total of 800 events, and events after then (from 12th) will not be found.

5. Select a data item to play in the search list.
6. Click the [**Play (**)] button.
7. To stop playing the video, click [**Stop (**)].
   To return to the search screen, click [**Exit (**)].

To check time information of the playing video

1. Click the [**About** ( )] button.
2. Date and time information appears on the screen.

To back up the searched video

1. Click [ ] on the scene to back up.
   Save as window appears.
2. Click [**Save**].
   The screenshot will be backed up to the specified path.

■ If you are using the IE8 as the default web browser, select "**Tools-Internet Options-Security**" and uncheck "**Use protected mode**".

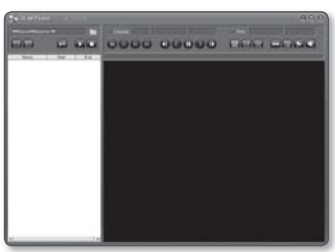
PLAYING THE BACKUP RECORDINGS

You can play backup recordings by using the SlimPlayer.

To download SlimPlayer

1. Click [**SlimPlayer (**)].
   You will see a download dialog where you can specify the download path.
2. Specify the path with a proper file name and click [**Save**].

3. Unzip the downloaded file and run the executable.



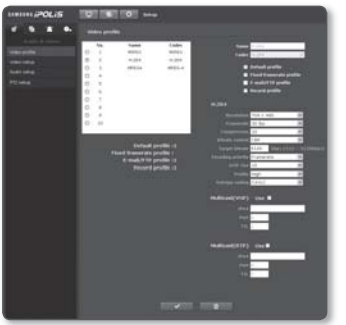
SETUP

You can configure the audio & video, network, event and system settings of the camera in the network.

1. In the Live screen, click [**Setup (**)].
2. The Setup screen appears.

AUDIO & VIDEO SETUP

Video profile



1. From the Setup menu, select the <**Audio & Video (**)> tab.
2. Click <**Video profile**>.
3. Select a <**Video profile**> number.
4. Click the input box of each item and enter / select a desired value.
   - The context menu may differ depending on the selected codec type.

   - Default profile : This is the default video profile.
   - Fixed framerate profile : Fix the frame rate of the selected profile regardless of the settings of other profiles.
   - E-mail/FTP profile : Video profile to be transferred to the specified email or FTP site.
     - Only the MJPEG codec can be set as the E-mail/FTP profile.
   - Record profile : This is the profile that is applied to video recording.
5. When done, click [**Apply (**)].

- Profiles using H.264 codec can be stored in the SD memory only in resolutions of 640x480 or less.
  MPEG4 videos can not be stored in the SD memory.

To add a video profile

You can add as many codecs as necessary so that a variety of profiles can be applied according to the recording condition.

1. Select a profile number.
2. Provide the name and select a codec.
3. Specify the conditions under which the codec will be applied.
4. Specify the details of the selected codec including resolution and frame rate.
   - Resolution : Set the video size of the MPEG4, H.264, and MJPEG files.
   - Framerate : Specify the frame rate.
   - Compression : Specify the compression rate of the video.
   - Bitrate control : You can select one from constant bit rate and variable bit rate for compression. Constant bit rate (CBR) varies the video quality and fixes network transfer bit rate, while variable bit rate emphasizes the quality by varying network transfer bit rate.
   - Target bitrate : Specify the bit rate at which you will transfer the video.
   - Encoding priority : You can set the video transfer method to Framerate or Compression.
   - GOP size : Select a GOP size between 1 and 15.
   - Profile : You can select the H.264 profiling method.
   - Entropy coding : Reduce the possible compression loss due to encoding.
   - Multicast(VNP) : Specify the use of the VNP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : Set the TTL for the VNP packet.
   - Multicast(RTP) : Specify the use of the RTP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : You can set the TTL for the RTP packet.

What is GOP size?

GOP (Group of Pictures) is a set of video frames for MPEG4 and H.264 format compression, indicating a collection of frames from the initial I-Frame (key frame) to the next I-Frame. GOP consists of 2 kinds of frames: I-Frame and P-Frame.

I-Frame is the basic frame for the compression, also known as Key Frame, which contains one complete image data. P-Frame contains only the data that has changed from the preceding I-Frame.

You can set between 1 and 15 for the MPEG4 and H.264 CODEC.

Video setup

1. From the Setup menu, select the <**Audio & Video (** **)**> tab.
2. Click <**Video setup**>.
3. You can configure the settings to your preference: OSD, General, White Balance, Exposure, Special and Area.

To set the OSD

- Device Name : Display the <**Device Name**> on the Live screen, which you have provided in <**Product information**> from <**System**>.
- Date & Time : Display the date and time information on the Live screen.
- PTZ : Display the PTZ information on the Live screen. If you set it to <**Auto**>, the PTZ information will be displayed only if a PTZ motion is detected, which will disappear if the motion is stopped.
- Action : Display on the Live screen the information related to operations such as preset, swing, group or trace.

To set the General

- Focus Mode
  - ONEAF : Auto-focuses the camera once after the Pan, Tilt, or Zoom function is used.
  - Auto : Performs continuous auto-focus.
  - Manual : Changes the camera mode to Manual Focus.
- Digital Zoom : Set the use of the digital zooming function. If it set to <**Off**>, the optical zoom still operates but the digital zoom will not be activated at the maximum end of the optical zoom.
- Flip mode : If you set it to ON, the image will be displayed reversely.
- DIS (Digital Image Stabilizer) : Corrects the display of an image that is shaking slightly. With DIS, you can obtain a sharp image even if the camera is affected by the surrounding vibrations or shaking.
  This is useful, especially when you install the camera on the top of a long pillar, in the middle of a bridge, or on the shoulder of a highway or in a windy place.

- Unlike the optical zoom, the graphics quality of the digital zoom decreases as its zoom ratio increases.
- The auto-focus function may not operate normally under the following conditions :
  - Bright lighting, blinking lighting such as a neon sign
  - When background illumination is low
  - While Slow-Shutter is in operation
  - Dark object
  - When background illumination is too high
  - If a long distance object and a close distance object appear together within a monitoring area
  - If there is no contrast, e.g. Ceiling or a wall
  - If the camera is facing a thin horizontal line
- Auto Focus focuses on an object in the center of the screen; objects around the screen edges may not be properly in focus.

To set the white balance

The White Balance menu adjusts the balance of the screen colors under different lighting conditions.
You can set the white balance separately for Day mode and Night mode.

1. Select Day mode.
2. Select a white balance mode for the daytime condition from ATW1/ATW2/AWC/3200K/5600K.
   - ATW1, ATW2 : The camera can automatically adjust the color temperature in real time, according to the ambient conditions. The allowable temperature range is between 2500K and 9300K for ATW1, and between 2000K and 10000K for ATW2.
   - AWC: Perform the auto white balance once for the current video.
   - 3200K : Mode that is optimized for 3200K for the color temperature.
   - 5600K : Mode that is optimized for 5600K for the color temperature.
3. Adjust the strength by selecting a value between -32 and 32 for each of red and blue settings.
4. Select Night mode.
   Select a white balance mode for the nighttime condition from ATW1/ATW2/AWC/3200K/5600K/Off.
   Set the values of Red Adjust and Blue Adjust for each white balance mode.

- If NIGHT mode is set to <**Off**>, the <**White Balance**> will operate in a mode specified in DAY mode at all times; otherwise, the screen will switch to a mode specified in <**Day/Night**>.
- White Balance may not work properly under the following conditions.
  - When the color temperature of the environment surrounding the subject is out of the control range.
  - When the ambient illumination of the subject is dim.
  - If the camera is directed towards a fluorescent light or is installed in a place where illumination changes dramatically, White Balance adjustments may not deliver consistent results.

To set the Exposure

The Exposure settings are to control the camera's exposure meter.

IRIS Setting

1. Set the iris to either ALC or Manual.
   - ALC : You can set both iris level and backlight in auto mode.
   - Manual : You can set the iris level manually.
2. Select an iris level between -32 and 32.
3. If you set the iris mode to ALC, select an iris level and set the backlight mode. Select one from Off/BLC/WDR in backlight.
   - Off : Do not use the backlight mode.
   - BLC : You can specify a desired area on the video manually and set the area to be displayed more clearly.
   - WDR : Display a sharp image of the objects in a scene where both bright and dark areas exist.
4. If you set the backlight mode to BLC, you can configure the backlight settings.
5. If you set the backlight mode to WDR, configure the settings of WDR Weight, WDR Level and WDR WB.
   - WDR Weight : Select one from Low/Middle/High.
   - WDR Level : Select one between -9 and 9.
   - WDR Auto W/B : Select either Indoor or Outdoor.

- If you set the backlight mode to BLC, you can specify a backlight area.

SensUp

This enables you to control the electric shutter of the camera.
Select one from Off/Auto x2 ~ x512 / Fix x2 ~ x512.

- Auto : This will restore the brightness by accumulating the video frames if the shutter speed drops drastically at night or in a low contrast scene.
- Fix : This will accumulate the video frames regardless of the video brightness.

▪ If WDR is set to ON, you cannot set Sens-Up to <**Fix**>.

AGC

AGC (Automatic Gain Control) adjusts the camera's gain control and the screen brightness if the camera has captured an object under low-light conditions.

▪ The AGC menu item will be displayed only if Sens-Up is set to <**Off**> or <**Fix**>.

▪ If DAY/NIGHT mode is set to Auto, the gain will be fixed to <**Very High**>.

Motion

Motion allows you to adjust the gain level in a dark scene. It also displays the level of flickering while in Sens-Up mode.
Select one from S.Slow/Slow/Normal/Fast/F.Fast.

▪ The Motion menu item will be displayed only if Sens-Up is set to <**Auto**>.

Shutter Speed

You can control the shutter speed of the camera.

- Select one from Off / 1/120 / 1/250 / 1/500 / 1/00 / 1/2000 / 1/4000 / 1/10K.

▪ If WDR is set to On, you cannot adjust the shutter speed.

▪ You can set the shutter speed only if Sens-Up is set to <**Off**>.

Day/Night

The Day & Night function allows the camera to switch between the Color and B/W modes. You can set the Day/Night mode to Auto/Day/Night.

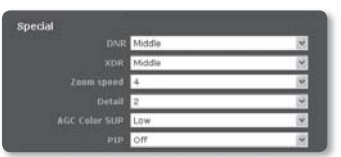
- Mode
  - Auto : Operates in Color mode most times, and switches to B/W mode if a low light level is detected during nighttime.
  - Day : Operates in Color mode at all times.
  - Night : Operates in B/W mode at all times.

To set the Special

DNR (Dynamic Noise Reduction)

DNR significantly reduces the amount of low luminance noise.

- Select one from Off/Low/Middle/High/ User1~16.



XDR (eXtended Dynamic Range)

XDR illuminates darker spots of an image while retaining the same light level for brighter spots to even out the overall brightness of the image with high contrast between bright and dark spots.

- The Off, Low, Middle and High modes are available.

Zoom Speed (1 ~ 4)

You can specify the zooming speed. The greater the value, the faster the speed.

Detail (0 ~ 3)

You can control the overall outline of an image.

AGC Color SUP

You can adjust the color reproduction range according to AGC.

PIP

You can view a main image with a sub image on the same screen.

To set the privacy zone

You can specify a certain area of the camera video to be protected for your privacy.

1. Select <**Privacy area**> from <**Area**>.
2. Select <**On**> in <**Privacy area**>.
3. Click an area on the image and select 4 corner points to specify a desired zone. A popup appears where you enter a name for the zone and click [**OK (** OK **)**].
   - Do not drag an area to specify a privacy zone.
4. To delete the selected area, click [**Delete (** Delete **)**].
5. When done, click [**Apply (** ✓ **)**].
   - You can specify up to 12 zones.

To set the area for the backlight compensation.

1. From <**Exposure**>, set <**Backlight**> to <**BLC**>.
2. Select <**BLC**> from <**Area**> and use the drag and drop method to specify an area in the preview screen.
3. The Add Area dialog appears where you enter a name for the area and click [**OK (** OK **)**].
4. To delete the selected area, click [**Delete (** Delete **)**].
   - You can specify only one area.
5. To display the specified backlight area, select <**On**> for display of the backlight area. Even if you set the option to <**Off**>, the actual area will be set normally.

Audio setup

You can configure the I/O settings of the audio source from the camera.

1. From the Setup menu, select the <**Audio & Video (** **)**> tab.
2. Click <**Audio setup**>.
3. Adjust the audio I/O levels to your preference.
   - Audio-In : Set the audio input value.
   - Audio-Out : Set the audio output value.
4. When done, click [**Apply (** **)**].

PTZ setup

You can change the direction of lens and activate the zoom.

1. Select the <**Audio & Video (** **)**> tab from Setup menu.
2. Click <**PTZ setup**>.
3. Click [**Direction Adjustment (** **)**].
   - [**Change direction to (** **)/(** **)/(** **)/(** **)**] : Change the direction of camera lens.
   - [**Moving speed control (** 6 **)**] : The bigger the number is, the faster the moving speed becomes.

4. Set the zoom and focus control buttons.
   - [**Zoom In (**)] : Zooms in the screen.
   - [**Zoom Out (**)] : Zooms out the screen.
   - [**Adjust Focus (** /)] : Adjusts the focus in the screen.
5. Set the preset.

To add a preset

1. Select the preset number to add.
2. Set the name for the preset.
3. Press the [+] button.

To delete a preset

1. Select the preset number to delete.
2. Press the [🗑] button.

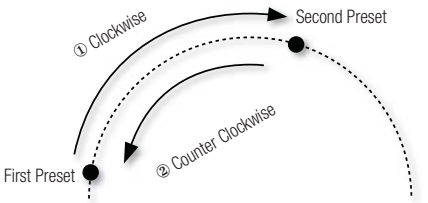
To move a preset

1. Select a preset number that you want to move.
2. Press the [↩] button.

Swing

Swing is a monitoring function that moves between two preset points and enables you to trace the motion.

- If Swing is active, the camera will move from the first preset position to the second preset position clockwise.
  Then, it moves from the second preset position back to the first preset position counter clockwise.



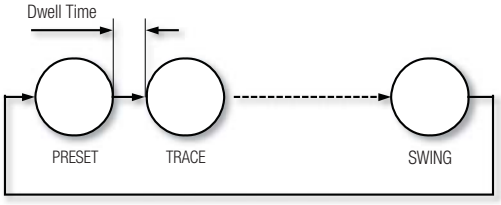
If the first preset is the same as the second preset position, the camera will rotate itself in place by 360° clockwise, then rotate back by 360° counter clockwise.
You can specify the speed between 1°/sec and 180°/sec.

To configure the swing settings

1. Set <**Mode**> in <**Sequence setup**> to <**Swing**>.
   The menu screen will switch to the swing setting screen.
2. Set <**First preset**> and <**Second preset**> to specify a swing range.
3. Specify the speed of movement.
4. Press the [▮▮] button.
   The first preset, second preset, speed and dwell time will be saved in set mode.
5. Press the [➡] button.
   This will perform the command stored in the swing number.
6. Press the [■] button.
   This will stop the currently running swing.

Group

The group function enables you to group multiple presets, swings or traces before calling them in sequence.
You can create up to 8 groups, each of which contains up to 20 operations.



Max. 20

To set a group

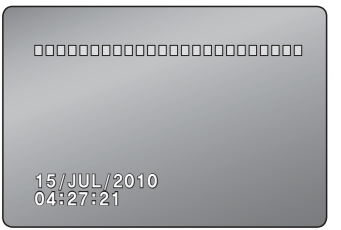
1. Set <**Mode**> in <**Sequence setup**> to <**Group**>.
   The menu screen will switch to the group setting screen.
2. Select a group number.
3. Select an index number between 1 and 20.
4. Select an operation from preset, swing and trace.
5. Specify the dwell time between 00:04 and 04:00.
6. If you select Preset for the operation, specify the moving speed; if selecting Swing or Trace, specify the repetition count.
7. Press the [**Add (** **)**] button. Your settings will be entered in the right list.
8. Repeat steps 3 through 7 above to complete the group list.
9. When you have specified all groups, press [**Save (** **)**]. Then, the newly created groups will be saved in the camera.

Trace

The trace function remembers the trace of movements instructed for a specified time using the joystick and reproduces it later for your reference.
You can use up to 4 traces, in each of which you can save up to 1000 communication commands.

To set the tracing function

1. Set <**Mode**> in <**Sequence setup**> to <**Trace & Auto Run**>.
   The menu screen will switch to the PTZ tracking and Auto run menu screen.
2. Select a tracking number.
3. Press the [ ] button.
   The following screen will be displayed.
4. Use the joystick to create a path of movements.
   The capacity of free memory space is displayed in the progress bar.



5. When you have completed the path, press [**Stop recording (** **)**].

To activate the trace function

1. Select a trace number.
2. Press the [ ] button.

Auto Run

This will perform the sequence operation that you have specified if no controller manipulation is made for a certain time.

To save the auto run

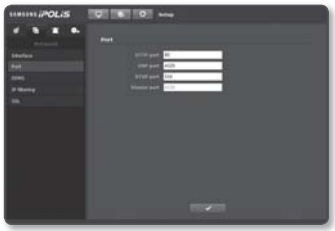
1. Set <**Mode**> in <**Sequence setup**> to <**Trace & Auto Run**>.
2. Select an auto run mode.
   - Home : Automatically executes the operation to the home position.
   - Preset : Automatically executes the operation to the preset number.
   - Swing : Automatically executes the operation in Swing mode.
   - Group : Automatically executes the operation in Group mode.
   - Trace : Automatically executes the operation in Trace mode.
3. Specify the waiting time between 5 seconds and 4 hours.
4. Press the [▪] button.

NETWORK SETUP

Interface

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**Interface**>.
3. Set the <**Interface**> and <**IPv6 setup**> as necessary.
   - IP type : Select an IP connection type.
     - Manual : Specify the IP address, Subnet Mask, Gateway, DNS1, and DNS2.
     - DHCP : Specify the DNS1 and DNS2.
     - PPPoE : Specify the DNS1, DNS2, ID and password.
     - If you set it to <**Manual**>, you should specify the IP address, Subnet Mask, Gateway, DNS 1 & 2 manually.
   - MAC address : Shows the MAC address.
   - IP address : Displays the current IP address.
   - Subnet mask : Displays the <**Subnet mask**> for the set IP.
   - Gateway : Displays the <**Gateway**> for the set IP.
   - DNS1/DNS2 : Displays the DNS(Domain Name Service) server address.
   - IPv6 use : Specify the use of IPv6.
   - IPv6 address : Obtains the IPv6 address to access the IPv6 network.
4. When done, click [**Apply (** **)**].

Port



1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**Port**>.
3. Type in each item in the Port menu as necessary.
   - Neither the port range between 0 and 1023 nor port 3702 is available.

   - HTTP port : HTTP port used to access the camera via the web browser.
     The default is 80(TCP).
   - VNP port : Set a port used to transfer video signals with the Samsung protocols.
   - RTSP port : Used to transfer videos in the RTSP mode; the default is 554.
   - Viewer port : Used to transfer videos to the Web Viewer; the default is 4520.
     - The port range of the Viewer is between 4502 and 4534. If the VNP port is with this effective range, the Viewer port should be specified the same as the VNP port.
4. When done, click [**Apply (** **)**].

DDNS

DDNS is an abbreviation of Dynamic Domain Name Service that converts the IP address of a camera into a general Host Name so that the user can easily remember it.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**DDNS**>.
3. Select <**DDNS**>.
4. Type in the DDNS items according to the selected type.
   - Samsung DDNS : Select this if you use the DDNS server provided by Samsung Techwin.
   - Public DDNS : Select one of provided public DDNS servers when you use a public DDNS server.
     - Host name : Enter the name of the host (i.e., host name of Dyndns) that is registered with the DDNS server.
     - User name : Enter the user name for the DDNS service. (i.e., user ID that is registered with Dyndns)
     - Password : Enter the password for the DDNS service. (i.e., password that is registered with Dyndns)
5. When done, click [**Apply (** **)**].

Registering with DDNS

To register your product with the Samsung DDNS

1. Visit the iPOLiS web site (www.samsungipolis.com) and sign in with a registered account.

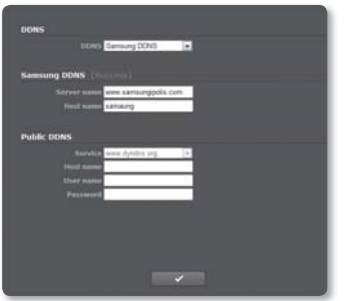
2. From the top menu bar, select <**DDNS SERVICE**>-<**MY DDNS**>.

3. Click [**PRODUCT REGISTRATION**].
4. Enter the product domain.
   - You must perform the duplicate check for the domain that you entered.

5. Select a <**CLASSIFICATION**> and specify the <**MODEL NUMBER**>.
6. Specify the product location with a description if necessary.
7. Click [**REGISTRATION**].
   The product will be added to the product list that you can check.

To connect to the Samsung DDNS in camera setup

1. From the DDNS setup page, set <**DDNS**> to <**Samsung DDNS**>.
2. Provide the <**Host name**> that you registered product domain with the DDNS site.
3. Click [**Apply (** ✓ **)**].
   When the connection is successfully made, you will see the message of <**(Success)**> on the screen.



Configuring public DDNS in Camera Settings

1. Open the DDNS settings page and select <**Public DDNS**> for <**DDNS**>.
2. Enter the corresponding site's host name, user name and password.
3. Click [**Apply (** ✓ **)**] button.
   If the connection properly establishes, <**(Success)**> appears.
4. When done, click [**Apply (** ✓ **)**].

IP filtering

You can create a list of IPs that you want to grant or deny access to them.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**IP filtering**>.
3. Select <**Filtering type**>.
   - Deny : If selecting this, access from those IPs that are added to the filtering will be restricted.
   - Allow : If selecting this, access from only those IPs that are added to the filtering will be accepted.
4. Provide the IP that you want to grant or deny access from.
   - The IP address of the device itself cannot be denied, access to which should be granted unconditionally.
5. When done, click [**Apply (** **)**].

SSL

You can select a secure connection system or install the public certificate for this purpose.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**SSL**>.
3. Select a secure connection system.
   - To access the camera using HTTPS mode, you have to type the IP address for the camera in the form of "https://<Camera_IP>".
4. Search for the public certificate that you want to install on the camera.
   To install the certificate on the camera, you need to provide a certificate name (it can be arbitrarily assigned by the user), certificate file issued from the certification authority and a key file.
   - The <**HTTPS(Secure connection mode using the public certificate)**> item will be active only if there exists a public certificate installed.
5. When done, click [**Apply (** **)**].

Installing the certificate

1. Enter the certificate name.
2. Select the certificate file to be installed and certificate key, and click [**Install (** Install **)**] button.

Deleting the certificate

1. Click [**Delete (** Delete **)**] button.

EVENT SETUP

FTP / E-mail

You can configure the FTP/E-mail server settings so that you can transfer the images stored in the camera to your PC if an event occurs.

1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**FTP / E-mail**>.
3. Select <**FTP configuration**> or <**E-mail configuration**> and enter / select a desired value.
   - FTP configuration
     - Server address : Enter the IP address of the FTP server that you transfer the alarm images to.
     - User ID : Enter the user ID with which you will log in to the FTP server.
     - Password : Enter the user account password for logging into the FTP server.
     - Upload directory : Specify the FTP path where you will transfer the alarm images.
     - Port : The default port of the FTP server is 21; however, you can use a different port number according to the FTP server settings.
     - Passive mode : Select <**On**> if you need to connect in passive mode due to the firewall or the FTP server settings.

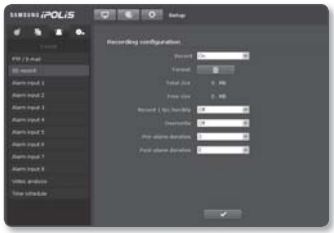
- E-mail configuration
  - Server address : Enter the IP address of the email server that you use for the email transfer.
    ex) SMTP. hotmail. com
  - Use authentication : Select whether to use authorization.
  - User ID : Enter the user ID for logging into the email server.
  - Password : Enter the user account password for logging into the email server.
  - Port : The default port of the email server is 25; however, you can use a different port number according to the email server settings.
  - Recipient : Enter the address of the email recipient.
  - Sender : Enter the address of the email sender. If the sender address is incorrect, the email from the sender may be classified as SPAM by the email server and thus may not be sent.
  - Subject : Enter a subject for your email.
  - Body : Provide the text for the massage. Attach the alarm images to the email that you are preparing.

4. When done, click [**Apply (**)].

SD record

You can set the record conditions or the use of recording for the SD memory, check the size of stored data, or format the SD memory itself.

1. From the Setup menu, select the <**Event (**)> tab.
2. Click <**SD record**>.



To make recording on the SD memory

1. Check the <**Total size**> and the <**Free size**>.
2. If the SD memory has a sufficient free space, set <**Record**> to <**On**>. Otherwise, check the stored data and if you find them not important, then click <**Format**> to format the SD memory.
   - If your SD memory card writes slowly, only one frame per second will be stored.
   - For a SD memory card with a large capacity, the formatting will be slowed down accordingly.
   - If the size of data grows with time, only 1 fps can be stored even if you set the record quality to Full Frame.
3. Specify the record conditions.
   - Record 1 fps forcibly : Only one frame per second will be recorded regardless of the existing record profile.
   - Overwrite : If the SD memory is full, this will delete old data and store new data in replacement.
   - Pre-alarm duration : Specify the time point before the occurrence of the alarm; starting from the time point, the images will be transferred. You can specify up to 5 seconds before the occurrence of the alarm.
   - Post-alarm duration : Specify the time point after the occurrence of the alarm; to the specified time point, the images will be transferred. You can specify up to 120 seconds after the occurrence of the alarm.
4. When done, click [**Apply (** **)**].

Alarm Input 1~8

You can set the alarm input type, activation time, and operation mode.

1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Alarm input**>.
3. Specify an input device.
   - Type
     - Normal Open : It is normally open, but if it is closed, an alarm will be triggered.
     - Normal Close : It is normally closed, but if it is open, an alarm will be triggered.
4. Specify the <**Activation time**>.
   - Always : Always check if an alarm occurs. It activates in operated mode when the alarm occurs.
   - Only scheduled time : Check if an alarm occurs at a specified day of the week for a specified time period. It activates in operated mode when the alarm occurs.
5. Specify an operation that will perform if an alarm occurs.
   - Output duration 1~4 : Select whether to set the alarm output if an alarm is incoming, and specify the alarm output time.
   - E-mail sending : Specify the use of email transfer in the alarm input setup.
   - Record : Specify the use of recording in the alarm input setup.
   - Goto Preset : Moves to the specified preset location when setting the alarm input.
6. When done, click [**Apply (** **)**].

Video analysis

1. From the Setup menu, select the <**Event (**)> tab.
2. Click <**Video analysis**>.
3. Specify the use of Intelligent function.
4. Set the resolution value and sensitivity level to detect an object.

Resolution Value	Object Size
1	32 of 8x8 pixel
2	24 of 8x8 pixel
3	16 of 8x8 pixel
4	8 of 8x8 pixel
5	1 of 8x8 pixel

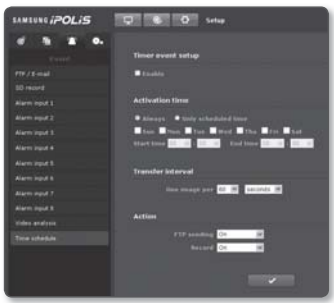
- If you set the Resolution Value high, the camera can detect detail motion of the object.

5. Set the Motion Detection type.
   Sets to detect and trace the moving object.
   - Tracking : Detects a moving object and perform additional functions.
   - Detection : Detects a moving object.
6. Set whether to use the Additional Motion Functions or not.
   Detects any motion of an object, displays the video with any changes, and trace the moving path.
   - If you select the <**Moved/Fixed**>, you can display the corresponding area when an object disappears from the screen or an object appears and stays in the screen for a specified time period.
7. Set whether to use the Motion Display function or not.
8. Set the activation time and condition.
   - Refer to the "**Alarm input 1 ~ 8**" for how to set the <**Activation time**> and <**Action**>. (page 81)
9. After set the <**On**> to the <**Intelligence function**> set up the <**Mask Area**>.
   You can specify up to 4 masking areas. Click on the screen and drag it to a desired point. This will set the masking area. Motion detection is not activated in set mask area.
   To delete set area, click [**Delete (** Delete **)**] button.

- Do not change the <**Flip mode**> setting under <**Video Setup**> after setting the masking area. If you change the <**Flip mode**> setting after setting the masking area, delete all existing masking areas and set them again.

Time schedule

You can configure so that an event will occur at a scheduled time regardless of the actual occurrence of the event.



1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Time schedule**>.

To set the timer event

1. Set <**Timer event setup**> to <**Enable**>.
2. Specify the <**Activation time**>.
   - Always : Always activates in operated mode at the set interval.
   - Only scheduled time : Periodically activates in operated mode at a specified time and date.
3. Specify the <**Transfer interval**>.
4. Specify the activation conditions.
   - FTP sending : Specify the use of the FTP transfer if an event occurs.
   - Record : Specify the use of recording if an event occurs.
5. When done, click [**Apply (** **)**].

SYSTEM SETUP

Product information

1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Product information**>.
3. Check the camera information, or provide details according to your network environment.
   - Device name : If you want to display the device name on the Live screen, provide a device name and set to display <**Device Name**> in <**OSD**> from <**Video setup**>.
   - Location : Specify the location where the camera is installed.
   - Description : Provide detailed information about the camera location.
   - Memo : Provide an explanation about the camera for better understanding.
   - Language : Selects the language to display in the Web Viewer.
4. When done, click [**Apply (** **)**].

▪ Product related information only allows English for input.

Date & Time

1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Date & Time**>.
3. Specify the time and date that will be applied to the camera.
   - Current system time : Displays the current time settings of your system.
   - Timezone : Specify the local time zone based on the GMT.
   - Use daylight saving time :
     If checked, the time will be set one hour before the local time zone for the specified time period.
     This option will be displayed only in areas where DST is applied.
   - System time setup : Specify the time and date that will be applied to your system.
     - Manual : Specify the time manually.
     - Synchronize with NTP server : Sync with the time of the specified server address.
     - Synchronize with PC viewer : Synchronize the time with the connected PC.
4. When done, click [**Apply (** **)**].

■ If you select the <**Synchronize with PC viewer**>, the standard timezone should be set the same as the current timezone in PC.

User

1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**User**>.
3. Provide the necessary user information.
   - Administrator Password Change : Change the current password for the administrator.
   - Guest setup : If <**Guest access**> is permitted, any guest can access the Web Viewer screen but can view only the Live viewer screen.
   - Current users : You can change the user information and adjust the permission level for a user who is set to <**Enable**>.
     - Video : You can select a video profile in the Liver viewer screen.
     - Audio-In : The audio input option will be activated in the Live Viewer screen.
     - Controls : You can control the camera menu, PTZ, Mic. and Alarm button.
4. When done, click [**Apply (** **)**].

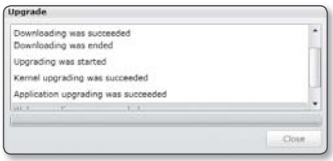
Upgrade / Reboot

1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Upgrade / Reboot**>.
3. Select a desired item and set it appropriately.
   - Upgrade : Performs upgrading the system.
   - Factory default : Resets the system to the factory default.
     - Except network parameter : Reset the other settings except for the interface/ port/DDNS/IP filtering settings.
     - All : Resets all settings including the camera settings. (however, the log information will not be reset)

       ▪ If you reset all settings, the IP address will be defaulted to 192.168.1.100.
   - Configuration backup & Restore : Backs up the current system settings before performing the restoration process. The system is automatically restarts after backup or restoration.
   - Restart : Restarts the system.

To perform the upgrade

1. Click [**Upgrade**].
2. Click [**Browse**] and specify a file to upgrade.
3. Click [**Send**].
4. The "**Upgrade**" dialog appears where the progression will be shown in the bottom.



- If you forcibly terminate the upgrade process, upgrade will not be completed properly.

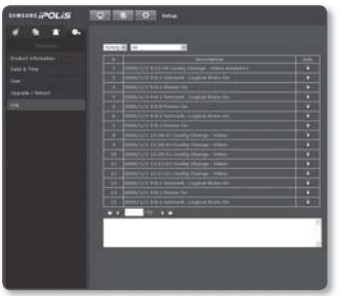
To save the current settings and restore the backup settings

1. Click [**Backup**].
   The Save As dialog should appear.
2. Specify the backup path with a proper file name, and click [**Save**].
   The backup file will be saved to the specified path in the format of "**.bin**".
3. To restore the backup settings, click [**Restore**].

4. Select a backup file and click [**Open**].

Log

You can check the system log or event log.



1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Log**>.
3. Select a log type.
   - Syslog : You can check the system logs where any system changes are recorded including the time information.
   - Evtlog : You can check the event logs including the time information.
4. From the right log list, select an item to search for.
   - If you select <**All**> in the top left dropdown list, all logs for the applicable log type will be displayed.
5. If one page can not display all the logs available, use the bottom buttons to move to the previous, next, or the last item.

- If you want to view the details of a log, click [**Info (** **)**] in the right column of the log; the log information will be shown in the bottom pane.
- Each page displays 15 logs with the latest one displayed at the top.
- The event/system log list can contain up to 1000 logs; after that, the existing logs will be deleted from the oldest one each time a new log is created.

SPECIFICATION

Items		Description
Video	Imaging Device	1/4" Ex-view HAD PS CCD
	Total Pixels	NT : 811(H) x 508(V), PAL : 795(H) x 596(V)
	Effective Pixels	NT : 768(H) x 494(V), PAL : 752(H) x 582(V)
	Scanning System	Progressive(VPS ON) (If WDR on, Interlaced Scan)
	Synchronization	Internal only
	Frequency	NT : H : 15.734KHz / V : 59.94Hz, PAL : H : 15.625KHz / V : 50Hz
	Horizontal Resolution	Color : 600 TV lines
	Min. Illumination	Color : 0.7 Lux (F1.6, 50IRE) B/W : 0.07 Lux (F1.6, 50IRE)
	S / N Ratio	52dB
	Video Out	CVBS : 1.0 Vp-p / 75Ω composite
Lens	Focal Length (Zoom Ratio)	3.2~138.5mm (43X)
	Max. Aperture Ratio	F1.6(Wide) / F3.7(Tele)
	Angular Field of View	H : 61.2°(Wide) ~ 1.47°(Tele) / V : 47.2°(Wide) ~ 1.1°(Tele)
	Min. Object Distance	1m (3.28ft)
	Focus Cotrol	AF / One-Shot AF / Manual
	Zoom Movement Speed	Max. 3.2Sec(Wide → Tele)
	Lens Type	DC Auto Iris
	Mount Type	Board-in type

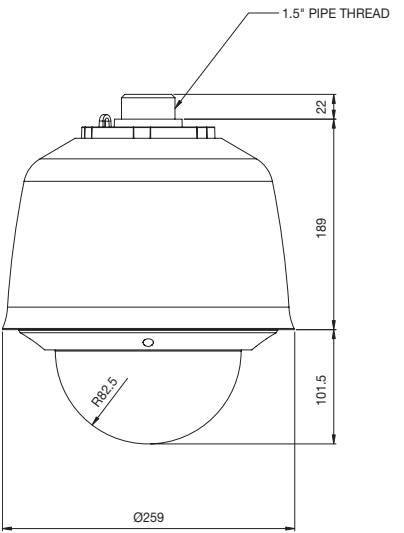
Items		Description
Pan / Tilt / Rotate	Pan Range	360˚ Endless
	Pan Speed	Preset : 360˚/sec, Manual : 0.05˚/sec ~200˚/sec
	Tilt Range	180˚(0˚ ~ 180˚)
	Tilt Speed	Preset : 360˚/sec, Manual : 0.05˚/sec ~ 200˚/sec
	Preset	255 ea
Operational	On Screen Display	English, Web OSD : English, French, German, Spanish, Italian, Chinese, Korean, Japanese, Russian, Swedish, Denish, Portuguese
	Camera Title	Off / On (Displayed up to 32 characters)
	Day & Night	Auto (ICR) / Color / B/W
	Backlight Compensation	Off / BLC
	Wide Dynamic Range	NT : 128X / PAL : 160X
	Contrast Enhancement	XDR (eXtended Dynamic Range) (Off/Low/Medium/High)
	Digital Noise Reduction	Motion Adaptive 2D+3D Noise Filter (Off/Low/Medium/High)
	Digital Image Stabilization	Off / On
	Motion Detection	Yes
	Privacy Masking	Off / On (12 Polygonal programmable zones)
	Sens-up (Frame Integration)	Off / Auto (2X ~ 512X)

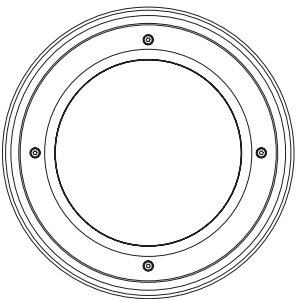
Items		Description
Operational	Gain Control	Off / Low / Medium / High / Manual
	White Balance	ATW (In) / ATW (Out) / AWC / Manual
	Electronic Shutter Speed	NT : Off / A.FLK / Manual (1/120 ~ 1/10Ksec) PAL : Off / A.FLK / Manual (1/100 ~ 1/10Ksec)
	Digital Zoom	16X
	Flip	Off / On
	Profile	Yes
	VPS	Off / On
	Intelligent Video Analytics	Moved / Fixed
	PIP	Off / On
	Schedule	Day / Time Schedule
	Alarm I/O	Input 8ea / Output 4ea (Relay)
	Remote Control Interface	RS-485
	RS-485 Protocol	Samsung-E, Samsung-T, Pelco-D, Pelco-P, Panasonic, GE(Kalatel), AD, Vicon, Honeywell(DK6), Bosch(Philips), Honeywell(VCLTP)
Network	Ethernet	RJ-45 (10/100BASE-T)
	Video Compression Format	H.264, MPEG4, MJPEG
	Resolution	NT : 704x480, 640x480, 352x240 PAL : 704x576, 640x480, 352x288
	Max. Framerate	NT : 30fps / PAL : 25fps

Items		Description
Network	Video Quality Adjustment	H.264/MPEG4 : Compression Level, Target Bitrate Level Control MJPEG : Quality Level Control
	Bitrate Control Method	H.264/MPEG4 : CBR or VBR MJPEG : VBR
	Streaming Capability	Multiple Streaming (Up to 10 Profiles)
	Audio I/O	Line in / Line out
	Audio Compression Format	G.711 μ-law
	Audio Communication	2-Way
	IP	IPv4, IPv6
	Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS
	Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log
	Streaming Method	Unicast / Multicast
	Max. User Access	10 users at Unicast Mode
	Memory Slot	SD/SDHC Memory Slot
	ONVIF Conformance	Yes
	Web Viewer	Supported OS : Windows XP / VISTA / 7, MAC OS Supported Browser : Internet Explorer 6.0 or Higher, Firefox, Google Chrome, Apple Safari
	Central Management Software	NET-i viewer

Items		Description
Environmental	Operating Temperature / Humidity	-50°C ~ +50°C (-58°F ~ +122°F) / 20% ~ 80% RH
	Ingress Protection	IP66 (Waterproof)
Electrical	Input Voltage / Current	Class 2 24V~50/60Hz, hPOE 44~57V
	Power Consumption	Max. 20W (Heater Off), Max. 50W (Heater On), hPOE 24W
Mechanical	Color / Material	Ivory / Aluminum (Vandal Resistance) / Plastic Sun-Shield
	Dimensions (Ø x H)	Ø259 x H290.5 mm
	Weight	4.5kg

PRODUCT OVERVIEW





TROUBLESHOOTING

PROBLEM	SOLUTION
I can't access the camera from a web browser.	• Check to make sure that the camera's Network settings are appropriate. • Check to make sure that all network cables have been connected properly. • If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem. • If connected using a DDNS URL, verify that the MAC address has been properly entered. • If the camera is connected to a router, verify that port forwarding is properly configured.
Viewer got disconnected during monitoring.	• Connected Viewers become disconnected upon any change to camera or network configurations. • Check all network connections. • If the camera is connected over an PPPoE network, it' s possible for Viewer to disconnect under poor network conditions.
I cannot connect to the system using a tab browser of Internet Explorer 7.0.	• When you try to connect to the system using a tab browser, the same cookie information is shared, resulting in errors when connected. Therefore, instead of using a tab browser, open a new browser window to connect to the system.
The camera connected to the network is not detected in the IP installer program.	• Turn off the firewall settings on your PC and then search the camera again.
Images overlap.	• Check whether two or more cameras are set to a single multicast address instead of different addresses. If a single address is used for multiple cameras, the images may overlap.
No image appears.	• If the transmission method is set to multicast, check whether there is a router that supports multicast in the LAN the camera is connected to.

PROBLEM	SOLUTION
Cannot record into the SD memory card.	• Check if the memory card is defective. • Check if the write protection tab of the memory card is set to "LOCK".
SD memory card is inserted but the camera does not operate properly.	• Check if the memory card is inserted in the proper direction. Operation of memory card that is formatted by other devices is not guaranteed with this camera unit • Format the memory card again in <Setup> → <Event> → <SD Record> menu.
Cannot format the SD memory card.	• Check if the write protection tab of the memory card is set to "LOCK".

OPEN SOURCE ANNOUNCEMENT

Some software components of this product incorporate source code covered under the BSD license as follows.

Component Name	License	License URL
lighttpd 1.4.25	BSD 2.0	http://www.opensource.org/licenses/bsd-license.html
librtp 1.20	BSD 1.0	

lighttpd is a secure, fast, compliant, and very flexible web-server that has been optimized for high-performance environments. It has a very low memory footprint compared to other webservers and takes care of cpu-load. Its advanced feature-set (FastCGI, CGI, Auth, Output-Compression, URL-Rewriting and many more) make lighttpd the perfect webserver-software for every server that suffers load problems.

For more additional information, send email to help.cctv@samsung.com.

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- GPL S/W
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